

County of Loudoun
Department of Planning
MEMORANDUM

DATE: September 14, 2009
TO: Jane McCarter, Project Manager, Land Use Review
FROM: Pat Giglio, Planner, Community Planning

SUBJECT: SPEX 2009-0004, SPEX 2009-0015 & CMPT 2009-0003
Scott Jenkins Memorial Park, 2nd Submission

BACKGROUND

The applicant, Loudoun County Office of Capital Construction, on behalf of the Loudoun County Board of Supervisors (the owner) is requesting two Special Exceptions (SPEXs) and a Commission Permit (CMPT) for the establishment of a County park on a 35-acre property east of the Town of Hamilton on the north side of Colonial Highway (Business Route 7). The subject property is zoned AR-1 (Agriculture Rural-1) and is governed under the provisions of the Revised 1993 Zoning Ordinance. The proposed park would include active recreational uses (athletic fields) and a share use commuter parking lot which are permitted within the zoning district by Special Exception. A Commission Permit is also required for establishment of a park on the subject property. The proposed park would specifically include four lighted baseball/softball fields, a lighted multi-use field and a shared-use commuter parking lot capable of accommodating up to 250 vehicles. The proposed park will be served by on-site wells and drainfields.

The applicant responded to Community Planning's first referral comments by providing a response letter dated August 11, 2009 and Special Exception Plat revised through August 5, 2009. Upon review of the submitted information, it appears that the majority of outstanding issues have been addressed; however, staff continues to have concerns regarding the proposed lighted athletic fields and impacts on adjoining properties.

COMPREHENSIVE PLAN COMPLIANCE

The subject property is governed under the policies of the Revised General Plan. The Revised General Plan places the property within the northern tier of the Rural Policy Area. The area is planned for rural economy uses and limited residential development (Revised General Plan, Chapter 7, *Land Use Pattern and Design Strategy Policies*, Policy 3).

OUTSTANDING ISSUE:

The submitted materials adequately address and clarify those issues raised in the first referral regarding storm water management, the incorporation of low impact design (LID) techniques, the designation of tree conservation areas (TCAs), the utilization of existing vegetation and supplemental plantings within the required landscape buffers, and the provision of adequate bicycle and pedestrian accommodations. However, staff continues to have concerns with the proposed lighting for the athletic fields.

Lighting

The Plan promotes the use of lighting for public safety and visibility without the nuisance associated with light pollution (Revised General Plan, Chapter 5, Lighting and Night Sky Policies, Policy 1a, p. 5-42). Lighting should be designed for effective nighttime use of the facility, minimizing off-site glare and the deterioration of the natural nighttime environment (Revised General Plan, Chapter 5, Lighting and Night Sky Policies, text). In the first referral, staff requested information regarding the proposed times of illumination and the intensity of lighting necessary for the use of the fields so that the appropriateness of the lighted fields and their compatibility with the surrounding rural area could be assessed. In response, the applicant has provided an updated illumination summary depicting the light intensities around the athletic fields and showing the decrease in light intensity along the properties perimeter which is in compliance with County standards. A plat note has also been added to state that all the lighting will be downward directed, cut off and fully shielded to direct light onto the athletic fields to minimize glare and light trespass on adjoining properties. County staff recommends that conditions of approval be developed to provide assurances that once the proposed lighting is installed and operational it complies with County standards and that corrective measures will be undertaken to assure that the lighting is the minimum levels necessary for the use of the athletic fields. Additionally staff recommends that conditions be developed to limit the hours of illumination of the proposed athletic fields to mitigate potential impacts on adjacent residential properties.

Staff finds that the lighting for the proposed athletic fields is in compliance with the lighting and nightsky policies of the Revised General Plan. Staff recommends conditions of approval be developed to ensure the proposed lighting is in compliance with County standards and hours of illumination for the proposed athletic fields are limited to no later than 10:00 pm to mitigate potential impacts on adjacent residential properties.

RECOMMENDATIONS

Staff finds that the proposed use of the subject property as a County park with athletic fields and a shared-use commuter parking lot is consistent with the general land use and public facilities policies of the Revised General Plan. Staff recommends that conditions be developed to ensure that the proposed lighting for the athletic fields is in compliance with County standards and that the hours of illumination extends no later than 10 pm to mitigate potential impacts on adjacent residential properties.

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Staff finds that the application for a Commission Permit (CMPT) to establish a County park on the subject site is consistent with the land use and rural economic policies of the Revised General Plan. In addition the Capital Needs Assessment (CNA) for the western subareas of the County demonstrate a deficiency in regional and district parks; the proposed park on the subject property would assist the County in providing citizens with access to need open space and recreational amenities. Staff finds the general location and use of the subject property as a public park is consistent with the Revised General Plan and recommends approval of the Commission Permit.

cc: Julie Pastor, AICP, Director, Planning
Cindy Keegan, AICP, Program Manager, Community Planning-via email

County of Loudoun
Department of Planning
MEMORANDUM

DATE: May 6, 2009

TO: Jane McCarter, Project Manager, Land Use Review

FROM: Pat Giglio, Planner, Community Planning

SUBJECT: SPEX 2009-0004, SPEX 2009-0015 & CMPT 2009-0003
Scott Jenkins Memorial Park

BACKGROUND

The applicant, Loudoun County Office of Capital Construction, on behalf of the Loudoun County Board of Supervisors (the owner) is requesting a pair of Special Exceptions (SPEXs) and a Commission Permit (CMPT) for the establishment of a County park to include active recreational uses (athletic fields) and local government purposes (commuter parking lot). The approximately 35-acre subject property is bound on the north by Colonial Highway (Business Route 7) and the south of Harry Byrd Highway (Route 7 By-Pass) approximately .8 miles east of the Town of Hamilton. The proposed athletic fields, located on the western portion of the property, would include four lighted baseball/softball fields and a lighted multi-use field. The proposed shared-use commuter parking lot, operated by the Loudoun County Office of Transportation, will accommodate up to 250 vehicles and will be used to provide over-flow parking for athletic events at the park during the evenings and weekends when not occupied by commuters. The proposed County park will be served by an on-site well and drainfields.

The subject property is zoned AR-1 (Agriculture Rural-1) and is governed under the provisions of the Revised 1993 Zoning Ordinance. The active recreational uses (athletic fields) and local government purposes (commuter parking lot) proposed for the park are permitted within the zoning district by Special Exception. A Commission Permit is also required for all public facilities to determine if the general location, character, and extent of the use is in substantial accord with the Comprehensive Plan. The proposed park is not shown as a public facility site on the Public Facilities Map (Revised General Plan, Chapter 3, Public Facilities Map); therefore, a Commission Permit is required.

A review of County GIS identified a small stream, wetlands and forest cover in the far eastern portion of the subject property, however no construction or land disturbing activities are proposed for this area of the site. Additionally individual trees, trees stands

and hedgerows were identified on the subject property. The Planning Department has waived the Phase I Archaeological Survey based on the results of a Phase IA Archaeological Survey of the subject property. The subject property has frontage and will be accessed from Colonial Highway (Business Route 7), which is designated a Virginia Byway.

Vicinity Map



COMPREHENSIVE PLAN COMPLIANCE

The subject property is governed under the policies of the Revised General Plan. The Revised General Plan places the property within the northern tier of the Rural Policy Area. The area is planned for rural economy uses and limited residential development (Revised General Plan, Chapter 7, *Land Use Pattern and Design Strategy Policies*, Policy 3). The Rural Policies, Public Facilities Policies and Environmental Policies of the Revised General Plan where used to evaluate the application.

ANALYSIS

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A. LAND USE

The County supports the Rural Policy Area as a permanent rural landscape, a unique composite of natural and man-made environments, farms and forestal areas, natural areas and wildlife habitats, villages, and hamlets. The County will permit development in the Rural Policy Area that promotes opportunities for the expansion of rural economic uses, open space, farms, historic and natural areas, forests, the Green Infrastructure, and protects the rural character of the landscape (Revised General Plan, Chapter 7, Land Use Pattern and Design Strategy Policies, Policy 8). The Plan identifies a variety of traditional and non-traditional rural business, including "private camps and parks" which are appropriate in the Rural Policy Area (Revised General Plan, Chapter 7, Land Use Pattern and Design Strategy Policies, Policy 6). The Plan also outlines a series of performance criteria that all rural business uses should meet in order to ensure their compatibility with the character of the surrounding rural area (Revised General Plan, Chapter 7, Land Use Pattern and Design Strategy Policies, Policy 6).

The Plan does not specifically identify "County Park" as a use in the Rural Policy Area but as indicated above, provides guidance on a variety of other appropriate rural business uses, such as private camps and parks, which provide similar facilities for active outdoor recreational uses for residents of the County. Additionally, the Parks, Recreation and Community Services policies of the Plan recommend "wherever possible, new active recreational facilities should be located near the Towns to reinforce the County's land use and fiscal policies" (Revised General Plan, Chapter 3, Parks, Recreation, and Community Services Policies, Policy 9). The location of the proposed park near the Town of Hamilton on Colonial Highway (Business Route 7) will provide convenient site access for both Town and County residents to utilize the facility. The proposed use of the subject property for a park is in keeping with the land use and location policies of the Revised General Plan.

The policies of the Revised General Plan promote the co-location of County facilities, specifically community meeting spaces, shared parking, and athletic fields, where feasible to function as multi-purpose community facilities (Revised General Plan, Chapter 3, General Public Facilities Policies, Policy 8). The Plan calls for these multi-purpose community facilities to be developed with an integrated design which incorporate a variety of uses on a single site. The Loudoun County Office of Transportation will operate the proposed 250 vehicle commuter parking lot with commuter bus services. The proposed shared-use commuter parking lot would be occupied by commuters during the weekdays and patrons of the park attending practices and sporting events during the evenings and weekends. The establishment of the proposed shared-use commuter parking lot on the subject property is supported by Plan policies.

Staff finds that the proposed use of the subject property as a County Park, with athletic fields and a shared-use commuter parking lot, conforms with the general land use and public facilities policies of the Revised General Plan.

B. EXISTING CONDITIONS

The Green Infrastructure is a collection of natural, cultural, heritage, environmental, protected, passive and active resources that will be integrated in a related system. It includes stream corridors, vegetative landscapes, wildlife and endangered species habitats, and heritage resources (*Revised General Plan, Chapter 5, Green Infrastructure Policies, Policy 1*). Development should take place around these elements, incorporating them into the design of the site. Such an approach places a priority on preserving both sensitive environmental and man-made features.

Elements of the Countywide Green Infrastructure can be found on the subject site, including a small stream, wetlands and forest cover. Detailed Plan guidance on the treatment of individual Green Infrastructure elements is outlined in the following sections.

1. Water Resources

The Plan places a priority on the protection of rivers, streams and wetlands; the retention of natural riparian forests and vegetation; and the preservation, buffering, and implementation of performance standards and best management practices as part of a larger water protection strategy. The Plan also calls for the protection of surface water and groundwater resources from contamination and pollution to prevent the degradation of water quality in the watersheds (*Revised General Plan, Chapter 5, Surface and Ground Water Resources, text*). The County encourages new developments to incorporate low impact development (LID) techniques which integrate hydrologically functional designs that minimize the volume of surface water run-off and reduces pollutants to better protect the integrity of receiving streams" (*Revised General Plan, Chapter 5, Surface Water Policies, Policy 17*). LID uses natural vegetation and small-scale treatment systems to treat surface water run off and infiltrate water close to the source.

A small stream bisects the far eastern portion of the property and small areas of wetlands were identified along the northern perimeter and eastern boundary of the property. Both the stream and wetlands areas have been delineated on the submitted Special Exception Plat and will not be impacted by the proposed facilities; however special care should be taken during the construction process to minimize the potential effects of soil erosion and sedimentation that may adversely effect these water resources.

The proposed athletic fields and the large parking areas, as shown on the submitted plat, will generate stormwater runoff and facilitate the runoff of pollutants. The submitted plat does not provide any details on how the proposed stormwater management system for the subject site will be integrated into the overall design. Specific site development details pertaining to the protection of existing water resources and the function of the proposed stormwater management system should be provided. The use of LID

techniques, such as vegetated filter strips and bioretention basins are recommended for the subject site adjacent to the proposed parking areas and building.

Staff recommends that a Stormwater Management Plan be developed in consultation with the County's Environmental Review Team to achieve policy goals regarding surface water and stormwater management on the site. Additional detailed information regarding the design and function of the proposed stormwater management system is requested.

Staff supports the use of low impact development (LID) techniques to minimize the volume of surface water run-off and reduces pollutants from the subject site. Staff welcomes a meeting with the applicant to discuss these issues.

2. Forests, Trees, and Vegetation

The Plan supports the conservation of forest resources and natural vegetation during the site development process for the various economic and environmental benefits that they provide (Revised General Plan, Chapter 5, Forest, Tree and Vegetation Policy 1). The County's forests and trees improve air and water quality, offer important habitat for birds, small mammals and other wildlife. They also redirect airflow and reduce wind speed, stormwater runoff, and soil erosion (Revised General Plan, Chapter 5, Forest, Tree and Vegetation Policy, text). Furthermore, existing vegetation is a superior habitat resource for new tree plantings because it retains essential ecosystem components that support tree and forest re-growth (Revised General Plan, Chapter 5, Forest, Tree and Vegetation Policy, text).

The Revised General Plan states that the submittal and approval of a forest management or tree conservation plan will be required prior to any land development. This plan will demonstrate a management strategy that ensures the long-term sustainability of any designated tree conservation areas (Revised General Plan, Chapter 5, Forest, Tree and Vegetation Policies, Policy 3). Although much of the subject property is open hay fields, some forest cover consisting of mature hardwoods is present in the far eastern portion of the property. The perimeter of the property and an abandoned roadway in the center of the property feature existing hedgerows comprised of native deciduous trees and a scattering of evergreen trees. Staff recommends retention of those healthy and desirable trees within the forested areas and existing hedgerows. The existing trees may be used in lieu of the buffer and screening requirements of the Zoning Ordinance. The Special Exception Plat should be revised to depict all of the existing forest cover and hedgerows on the property and those areas which are to be preserved should be designated as tree conservation areas (TCAs) on the Special Exception Plat.

Staff recommends that as much of the existing vegetation and trees as possible be preserved on the site. Staff recommends that the existing forest cover and hedgerows which are to be preserved on the subject property be designated as tree conservation areas (TCAs) on the proposed Special Exception Plat. Staff

recommends commitment to the long-term maintenance of the tree conservation areas (TCAs).

3. Virginia Byway

Protecting the rural character and scenic quality of rural roads is fundamental to the rural strategy (Revised General Plan, Chapter 7, Land Use Pattern and Design, text). The section of Colonial Highway (Business Route 7) fronting the subject property is designated a Virginia Byway. The road is lined with open fields, large trees and stone walls, characterized by a road bed that follows the natural topography of the land which contributes to the scenic quality of the roadway. Staff recommends that existing rural/rustic character of the roadway and its relationship to the surrounding cultural landscape be considered in the design of entrances and treatment of the road frontage of the subject property.

Staff recommends that any road improvements associated with the proposed facility be sensitive to the rural character of the roadway. Staff would be happy to work with the applicant and the Office of Transportation Services to develop conditions that address the rural/rustic character of the roadway.

C. COMPATIBILITY

The Plan policies support the development of rural businesses that are compatible in scale, use and intensity with the rural environment. The proposed County park, like other rural business uses, must meet established performance criteria, including traffic capacity limits, site design standards (i.e. buffering, use intensity, siting, architectural features) and pose no threat to public health, safety and welfare" (Revised General Plan, Chapter 7, Land Use Pattern and Design Strategy Policies, Policy 6).

The proposed County park will feature athletic fields and a shared-use commuter parking lot which will generate peak-hour traffic, and potential noise and light impacts associated with the proposed athletic fields which may affect adjacent properties.

1. Site Design

The subject property is comprised of two parcels totaling 35 acres, which form a triangle shaped tract bound on north by Harry Byrd Highway (Route 7 By-Pass) and on the south by Colonial Highway (Business Route 7). The prominent location of the proposed County park between two major roadways which serve as gateways into the Rural Policy Area and towns emphasizes the importance of providing a quality design for the site layout and buildings/structures proposed on the site so that they do not detract from the surrounding rural character of the area. The County's rural economy and rural tourism depends on the preservation and enhancement of the natural and man-made environment that contribute to the rural character (Revised General Plan, Chapter 7, The Rural Economy, text).

Athletic fields cover the majority of the western and central portions of the property, with parking located along the southern boundary of the property adjoining Colonial Highway

(Business Route 7). A network of trails connects the athletic fields with restrooms and concessions buildings located in proximity to the fields and off-site trail connections are also being provided for the future. As mentioned earlier, the perimeter of the property is surrounded by forest cover and hedgerows which form a natural buffer that will soften views and contribute to the rural character of the proposed park.

Staff finds the design and scale of the proposed park is in keeping with the rural character of the surrounding area, provided that adequate landscaping and buffering is provided and noise and light impacts are addressed (see discussion below).

2. Landscaping and Buffering

The Statement of Justification states that "existing or proposed landscaping, screening and buffering will be adequate to screen surrounding uses", however no landscaping, including any buffering required by applicable zoning regulations, has been shown on the Special Exception plat.

As mention above, the perimeter of the property, with the exception of the northwest side is surrounded by existing hedgerows which form a natural buffer that screens views of the property from Colonial Highway (Business Route 7) and Harry Byrd Highway (Route 7 By-Pass). The existing trees may be used in lieu of the buffer and screening requirements of the Zoning Ordinance and supplemental plantings may be added to enhance the existing hedgerows and eliminate gaps. These mature trees provide a superior buffer for screening the proposed facilities and eliminating glare on adjoining roadways and properties from the proposed site lighting. The Special Exception Plat should be revised to depict all of the existing perimeter hedgerows which are to be incorporated into the required landscape buffer for the proposed County park. The perimeter hedgerows should be designated as tree conservation areas (TCAs) on the Special Exception plat.

A tree lined abandoned roadway bisects the center of the property and separates two existing hay fields, the submitted Special Exception plat proposes the elimination of the majority of these trees and the construction of a multi-purpose athletic field in the vicinity. Staff encourages the retention of the existing roadway and alley created by the trees on either side of the abandoned roadway as a site feature in the design of the proposed park. The existing trees will provide a shaded area and further separate the athletic fields on the subject property. Special care should be taken during the construction process to protect the existing trees adjoining the roadways and perimeter of the proposed parking lots from damage (i.e. root trenching and safety fencing).

Staff recommends that the existing hedgerows on the perimeter of the property be incorporated into the required landscape buffer for the property. Staff recommends that the trees on either side of the abandoned roadway near the center of the property be preserved and incorporated into the design of the site. Additional detailed information regarding necessary supplementation and a detailed tree preservation plan that indicates the location of trees to be saved

during construction and over the life of the project are requested. Staff recommends delineating all existing tree cover proposed for preservation as Tree Conservation Areas (TCAs).

3. Lighting

The Plan promotes sound night-lighting standards that will "reduce light pollution such as glare, energy waste, light trespass, and the deterioration of the natural nighttime environment" (Revised General Plan, Chapter 5, Lighting and the Night Sky, text). A "star-plex" of four lighted baseball/softball fields and a lighted multi-use field are proposed on the subject property. The Statement of Justification states that "light or glare generated from games played after dusk is not anticipated to have any greater impact on properties in the immediate area than that of vehicular traffic using Route 7".

The applicant has included an illumination summary depicting the locations of the light poles and anticipated light intensities on the athletic fields and at the perimeter of the property. Information regarding the days and times of illumination should also be provided, so that staff can assess the appropriateness of the lighted fields and their compatibility with the adjacent properties and surrounding rural area.

Staff requests information pertaining to the days and times of illumination for the proposed athletic fields to fully evaluate impacts on adjoining properties and to evaluate the appropriateness of lighted athletic fields in the rural area. Specifically, staff is concerned about the height of the light poles and spillage of light onto adjoining properties and into the night sky. All lighting should be designed to preclude light trespass onto adjoining properties, glare to passersby, sky glow, and deterioration of the nighttime environment.

4. Noise

The County seeks to protect existing and future residents from increased levels of environmental noise (Revised General Plan, Chapter 5, Aural Environment, text). The Statement of Justification states "existing noise emanating from the vehicular traffic using this highway will be greater than a few parents clapping and cheering for their children during a youth sports game." Staff notes that the nearest residence is located approximately 350 feet to the west of the proposed baseball/softball fields and that potential noise impact may exist, particularly if amplified sound is purposed to announce games.

Staff requests that additional information be submitted to demonstrate that the anticipated noise levels emanating from the use of the subject property will not adversely affect adjoining residential uses and will be in compliance with County standards. Staff recommends conditions be developed to ensure that the noise levels will be in compliance with County standards and that corrective measures by the applicant will be undertaken should the noise levels in the future exceed these standards.

5. Pedestrian and Bicycle Circulation

The Bicycle and Pedestrian Mobility Master Plan emphasizes the importance of providing pedestrian and bicycle connections to and through public parks and recreational facilities (Bicycle and Pedestrian Mobility Master Plan, Chapter 4, Park Access, text). The design of the site should consider both vehicular and non-vehicular traffic. The submitted Special Exception plat depicts an 8' trail entering the property on the southwest corner, adjoining Colonial Highway (Business Route 7), and connecting into the interior trail network of the proposed athletic fields and exiting the eastern corner of the property with a future connection with the Town of Hamilton and the W&OD trail at Clark's Gap. Plan policies call for all bicycle and pedestrian facilities to be designed in accordance with national guidelines established by organizations such as the American Association of State Highway and Transportation Officials (AASHTO) (Countywide Transportation Plan, Chapter 2, Pedestrian and Bicycle Facilities Policies, Policy 8, and Bicycle and Pedestrian Mobility Master Plan, Chapter 4, Transportation Project Development Policies, Policy 2). AASHTO guidelines recommend a width of 10 feet for shared use paths. A reduced width of 8 feet may be appropriate if bicycle traffic is expected to be low, pedestrian use will be no more than occasional, etc. Due to the use of a portion of the proposed park for a commuter parking lot and future plans to create greater bicycle connectivity to the subject property, the use of the trail can be expected to be more than occasional, necessitating a 10-foot trail. Additionally bicycle lockers and/or racks should be considered in support of non-vehicular modes of transportation to support the proposed commuter parking lot.

Staff recommends that the proposed trails within the park be a minimum of 10-feet in width to facilitate safe shared bicycle and pedestrian usage. Staff recommends that bicycle lockers and/or racks be provided in support of non-vehicular modes of transportation for the proposed commuter parking lot. Staff recommends that the applicant commit to providing future bicycle and pedestrian connections to the Town of Hamilton and/or the W&OD trail when the opportunity arises.

RECOMMENDATIONS

Staff finds that the proposed use of the subject property as a County park is consistent with the land use and rural economic policies of the Revised General Plan. However, staff has identified several issues that require additional information for review so that a more thorough analysis of the proposed project can be completed. Staff cannot recommend approval of the Special Exceptions and Commission Permit request at this time.

Staff requests the following information:

- stormwater management plan;
- tree conservation areas;
- road improvements;
- landscaping and buffering plan;

COUNTY OF LOUDOUN
DEPARTMENT OF BUILDING AND DEVELOPMENT
ZONING ADMINISTRATION 2nd REFERRAL

DATE: June 2, 2009
TO: Jane McCarter, Project Manager
Department of Planning
FROM: Michelle M. Lohr, Planner
**CASE NUMBER
& NAME:** SPEX 2009-0004, SPEX 2009-0015 & CMPT 2009-0003
Scott Jenkins Memorial Park
TAX MAP/PARCEL /37////////58A/ and /37////////58B/
MCPI: 346-35-3765; 346-36-7436

This referral is in response to the request for comments dated August 12, 2009 regarding two special exception applications and a commission permit application to construct an active park and commuter park and ride parking lot. The following documents, submitted with the August 12th Memorandum from Project Manager Jane McCarter were reviewed: Information Package, August 11, 2009 response to first referral comments, and Special Exception Plat dated February 2009, revised through 8/5/09, prepared by Patton Harris Rust & Associates, pc., consisting of 4 sheets. Zoning staff has the following outstanding comments:

1. Cover Sheet. Note #7. As special exceptions are typically approved to be in substantial conformance with the special exception plan, revise Note #7 to state the reason that the location of the buildings, structures and parking lots could be subject to change, such as for engineering reasons.
2. It is noted that the boundary line adjustment for the property was approved on August 5, 2009. Revise 19 accordingly.

RECOMMENDATION

The comments included in this referral should be addressed prior to action by the Board of Supervisors.

Copy: Marilee L. Seigfried, Deputy Zoning Administrator

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COUNTY OF LOUDOUN
DEPARTMENT OF BUILDING AND DEVELOPMENT
ZONING ADMINISTRATION REFERRAL

DATE: June 2, 2009
TO: Jane McCarter, Project Manager
Department of Planning
FROM: Michelle M. Lohr, Planner *mmL*
CASE NUMBER & NAME: SPEX 2009-0004, SPEX 2009-0015 & CMPT 2009-0003
Scott Jenkins Memorial Park
TAX MAP/PARCEL /37////////58A/ and /37////////58B/
MCPI: 346-35-3765; 346-36-7436

A. APPLICATION SUMMARY

This referral is in response to the request for comments dated April 3, 2009 regarding two special exception applications and a commission permit application to construct an active park and commuter park and ride parking lot. The subject property is zoned AR-1 Agricultural Rural 1 and is administered under the Revised 1993 Loudoun County Zoning Ordinance. The property contains land within the MDOD (Mountainside Development Overlay District) and areas of steep slopes. In accordance with Table 2-102 of the Zoning Ordinance, the proposed Active Park is permitted by special exception within the use type "Community, neighborhood, or regional park, active recreational uses." The Commuter Park and Ride Parking Lot is also permitted by Special Exception within the use type "Structures or uses for local government purposes not otherwise listed in the district."

The following documents, submitted with the April 3, 2008 Memorandum from Project Manager Jane McCarter were reviewed: Information Package, Statement of Justification dated February 2009, and Special Exception Plat dated February 2009, prepared by Patton Harris Rust & Associates, pc., consisting of 4 sheets.

The subject parcels consist of a 23.67 acre parcel and an 11.43 acre parcel, for a total of 35.1 acres and is zoned AR-1 (Agricultural Rural-1) and contains areas of Moderately Steep Slopes. The property is currently vacant.

B. SECTION 6-1310 ISSUES FOR CONSIDERATION

1. (A) *Whether the proposed special exception is consistent with the Comprehensive Plan. Zoning defers to Community Planning in the Department of Planning regarding this issue.*
2. (B) *Whether the proposed special exception will adequately provide for safety from fire hazards and have effective measures of fire control. Zoning defers to Fire and Rescue regarding this issue.*
3. (C) *Whether the level and impact of any noise emanating from the site, including that generated by the proposed use, negatively impacts the uses in the immediate area. The noise standards of Section 5-1507 apply to the proposed uses.*
4. (D) *Whether the glare or light that may be generated by the proposed use negatively impacts uses in the immediate area. The lighting requirements of Section 5-1504 apply to the proposed uses.*

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5. (F) *Whether sufficient existing or proposed landscaping, screening and buffering on the site and in the neighborhood to adequately screen surrounding uses.* The landscaping requirements of Sections 5-1400 apply to the proposed uses and will be reviewed in detail during site plan review. A Type 3 buffer is required along Colonial Highway (Business Route 7) in front of the proposed commuter parking lot (Group 1 single family residential and the Group 8 parking lot use).
6. (J) *Whether the traffic expected to be generated by the proposed use will be adequately and safely served by roads, pedestrian connections and other transportation services.* Zoning defers to the Office of Transportation Services regarding this issue.

C. OTHER ISSUES

11. **Section 5-1100. Parking.** As active recreation use is not specifically listed in the parking requirements, the parking rate is as determined by the Zoning Administrator and will be verified at the time of site plan review.
12. **Section 5-1504 Light and Glare Standards.** The light and glare standards of Section 5-1504(A) apply. Include statement on the special exception plat that Section 5-1504 applies to the proposed use.
13. **Section 5-1507 Noise Standards.** The noise standards of Section 5-1507. Include statement on the special exception plat that Section 5-1507 applies to the proposed use.
14. **Section 5-1508. Steep Slopes.** The site contains areas of moderately and very steep slopes. In accordance with Section 5-1508(F), a grading permit and locational clearance will be required at the time of site plan review.
15. **Section 6-701. Site Plan.** Please be advised that a site plan is required in addition to the special exception prior to establishing the proposed uses.

C. SPECIAL EXCEPTION PLAT

16. Cover Sheet. Note #7. This note states that the locations of the buildings, structures and parking lots are conceptual in nature and that the final location of improvements are subject to change and not subject to approval by the Board of Supervisors. As the applicant is to guarantee substantial conformity to the special exception plat, Note #7 should be revised to simply state that changes to the plan layout might occur due to engineering design.
17. Cover Sheet. Note #12. Please note that an approved site plan is required prior to zoning permit approval.
18. Cover Sheet. Note #13. The lighting requirements of Section 5-1504 apply to these uses.
19. Cover Sheet. In addition to the yard requirements cited, the setback requirements of Section 5-900 apply to the site: Harry Byrd Highway – 200' building; 100' parking setback.
20. Cover Sheet. It is noted that a boundary line adjustment application has been filed [BLAD 2009-0028] to vacate the property line shared by the subject parcels. This lot consolidation will alleviate buffering and landscaping issues along that property line. Include a note regarding the boundary line adjustment application.
21. Sheet 3. A Type 3 buffer is required to screen the commuter parking lot from the adjacent properties.
22. One of the bus shelters is shown within the required 75' yard along East Colonial Highway/Business Route 7 [Section 2-103(A)(3)(c)]. Please relocate this structure.

D. ENVIRONMENTAL REVIEW TEAM COMMENTS

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Comments from the Environmental Review Team dated April 27, 2009 were forwarded to the Project Manager under separate cover and are attached to this referral for reference.

E. RECOMMENDATION

The comments included in this referral should be addressed prior to action by the Board of Supervisors.

Copy: Marilee L. Seigfried, Deputy Zoning Administrator

DEPARTMENT OF BUILDING AND DEVELOPMENT

COUNTY OF LOUDOUN

MEMORANDUM

DATE: September 4, 2009

TO: Jane McCarter, Department of Planning

FROM: Todd Taylor, Environmental Engineer *MTT*

THROUGH: Gary Clare, Chief Engineer *GC*
William Marsh, Environmental Review Team Leader *WM*

CC: Dana Malone, Urban Forester
Michelle Lohr, Zoning Planner
Pat Giglio, Community Planner, Department of Planning

SUBJECT: **SPEX-2009-0004, SPEX-2009-0015, & CMPT-2009-0003**
Scott Jenkins Memorial Park
(2nd Submission)

The Environmental Review Team (ERT) has reviewed the revised application and offers the following comments.

1. The special exception plat depicts restrooms and a trail approximately 8 to 10 feet from the "Moon Tree". Staff recommends that the restroom and trail be shifted to the east or relocated elsewhere on the property to ensure protection of the tree's critical root zone. The "Moon Tree" should be included as a tree save area or specified on the plat as an individual tree to be preserved. ERT recommends a condition of a approval requiring the following: 1) no land disturbance within 20 feet of the tree; 2) 4-foot welded wire tree protection fence with "Tree Protection" signage in English and Spanish spaced no more than every 30 feet all the way around the tree protection fence; 3) a plaque explaining the tree's significance and history; and 4) no future site alteration within 30 feet of the tree. [Revised General Plan (RGP) Forest, Trees, and Vegetation Policy 1]
2. For clarity, please include a legend on Sheet 3 identifying the tree save area symbol. In addition, staff recommends a condition of approval specifying the intent and limitations of the designated tree save areas, in addition to the specific measures for the "Moon Tree" identified above.
3. The applicant's responses state that the absence of curb and gutter within the parking lot design and the use of grass swales increases time of flow for runoff to reach proposed stormwater management ponds, promoting infiltration. Staff agrees with this approach and recommends that the use of no curb and gutter in parking lot areas

and grass swales to convey stormwater runoff be provided as a condition of approval.
[RGP Surface Water Policy 5]

4. The applicant's responses state that the initial Phase 1 development, consisting solely of the large ball field, will require less than 6,700 gallons per day during a 30-day period, which is below the 10,000 gallons per day threshold referenced in Section 6.240 of the Facilities Standards Manual (FSM), requiring a hydrogeologic assessment. The responses go on to state that the applicant will commit to conducting a hydrogeologic assessment prior to construction of the irrigation system for the Phase 2 fields. Staff recommends that the assessment be provided as a condition of approval, to trigger the requirement at the time of the first site plan submittal. The condition will make it clear that the hydrogeologic assessment is required due to the water demand for both phases, collectively. Considering the limited water resources in this area of the County, it is important that the hydrogeologic assessment be conducted. [RGP Groundwater Policy 4]
5. The applicant's responses state that it is anticipated that the applicant shall install low flow fixtures and waterless urinals in the proposed restrooms. Staff recommends that these water conserving measures be included as a condition of approval. As previously stated, including water conservation measures within the project would establish a positive example of efficient water use in an area of the County with limited water resources and would be consistent with the Public Facilities goal language on Page 3-6 and General Water Policies on Page 2-20 of the RGP.
6. In addition to the Noise Standards specified in Section 5-1507 of the Revised 1993 Loudoun County Zoning Ordinance, which is referenced in applicant's responses, staff recommends that the applicant address protection of the proposed park use from noise generated by Route 7. Based on Table 4-1 on page 4-8 of the Revised Countywide Transportation Plan (CTP), noise abatement measures should be considered if noise levels approach or exceed 67 decibels (dBA) for parks and active sport areas. The application should also consider noise generated from the park uses and impacts on adjacent properties. [CTP Noise Policy 2 and RGP Highway Noise Policies 1 and 3]

Please contact me if you need any additional information or have questions.

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DEPARTMENT OF BUILDING AND DEVELOPMENT

COUNTY OF LOUDOUN

MEMORANDUM

DATE: April 27, 2009

TO: Michelle Lohr, Zoning Planner

FROM: Todd Taylor, Environmental Engineer *TT*

THROUGH: Gary Clare, Chief Engineer *GC*
William Marsh, Environmental Review Team Leader *WM*

CC: Pat Giglio, Community Planner, Department of Planning

SUBJECT: SPEX-2009-0004, SPEX-2009-0015, & CMPT-2009-0003
Scott Jenkins Memorial Park

The Environmental Review Team (ERT) reviewed the subject application during the April 20, 2009, ERT Meeting. A site visit was also conducted on April 23, 2009. Our comments pertaining to the current application are as follows. The comments include references to policies in the Revised General Plan (RGP), however, the comments also are relevant to the Issues for Consideration described in Section 6-1310 of the Revised 1993 Loudoun County Zoning Ordinance (1993 LCZO).

Regarding tree cover

1. Staff recommends adjusting the site layout to more comprehensively preserve the central hedgerow that bisects the site. The entrance road is an attractive natural feature that includes two significant white oak trees, with diameters at breast height (DBH) of 54 and 40 inches, located on the west side of the driveway (see attached photographs 1 and 2). In addition, the hedgerow includes the "Moon Tree", located on the east side of the driveway (see attached photograph 3). The "Moon Tree" orbited the Moon as part of the Apollo 14 Mission in February 1971. Approximately 400-500 seeds were carried onboard, and upon return to earth, were germinated by the U.S. Forest Service. The trees were then planted throughout the world including such notable locations as the White House, Washington Square in Philadelphia, and various other locations including universities and NASA centers. While a few Ailanthus trees are located in the hedgerow, they are insignificant and could be sanitized out along with a few other trees of poor form, poor quality and poor structural integrity. To minimize or eliminate disturbance to the existing trees, staff strongly recommends moving the large rectangular field east of the hedgerow. Staff also recommends including a plaque to explain the history of the "Moon Tree" to park visitors. [RGP Forest, Trees, and Vegetation Policy 1]

4/27/09

Countywide Transportation Plan (CTP), noise abatement measures should be considered if noise levels approach or exceed 67 decibels (dBA) for parks and active sport areas. The application should also consider noise generated from the park uses and impacts on adjacent properties. [CTP Noise Policy 2 and RGP Highway Noise Policies 1 and 3]

Please contact me if you need any additional information or have questions.



Photograph 1: White oak with 54-inch DBH located on the west side of the driveway.



Photograph 2: White oak with 40-inch DBH located on the west side of the driveway.



Photograph 3: "Moon Tree" (sweet gum) located on the east side of the driveway.

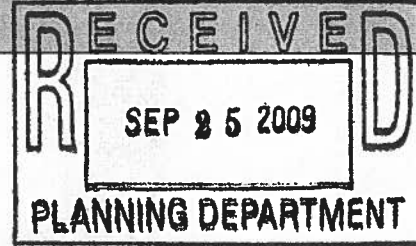


Photograph 4: Pin oak located near the northwestern corner of the property.

County of Loudoun

Office of Transportation Services

MEMORANDUM



DATE: September 25, 2009

TO: Jane McCarter, Project Manager
Department of Planning

FROM: Marc Lewis-DeGrace, Transportation Planner *MLDG*

SUBJECT: CMPT 2009-0003, SPEX 2009-0004 & SPEX 2009-0015 –
Scott Jenkins Memorial Park
Second Referral

Background

This referral updates the status of issues identified in the first OTS referral on these applications (dated June 24, 2009). The subject Commission Permit (CMPT) and Special Exception (SPEX) applications propose an active recreational park with lighted fields and a 250-space commuter parking lot on an approximately 35-acre site in the Agricultural Rural (AR-1) zoning district. The site is located on the north side of East Colonial Highway (Business Route 7), approximately one (1) mile east of the Town of Hamilton. Access to the proposed uses would be via two new entrances from Business Route 7, one for passenger vehicles (for both the park facilities and commuter parking lot) and the other for the exclusive use of commuter buses.

This update is based on review of materials received from the Department of Planning on August 13, 2009, namely (1) a letter responding to first referral comments, dated August 11, 2009, and (2) a special exception plat prepared by Patton Harris Rust & Associates, PC, dated February 2009.

Status of Transportation Issues/Comments

Staff comments from the first OTS referral as well as the Applicant's responses (quoted directly from its August 11, 2009 response letter) and current issue status, are provided below.

1. Initial Staff Comment (1st Referral): The traffic study recommends that the speed limit be lowered to 45 MPH for the entire segment of East Colonial Highway (Business Route 7) between Hamilton Station Road (Route 704) and Charlestown Pike (Route 9) due to existing roadway conditions. OTS staff notes that the Board of Supervisors would need to request such a speed limit reduction from VDOT, and that a speed study would need to be completed. OTS defers to VDOT's traffic engineering section for additional comments on this matter.

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Applicant's Response (August 11, 2009): Agreed with OTS comments, speed reduction should be requested by the County Board to VDOT. The reduction in speed is suggested for improved site access, but is not required for VDOT approval of the proposed site.

Issue Status: Issue resolved.

2. Initial Staff Comment (1st Referral): OTS staff requests further explanation of the "alternative length" measurement used in the traffic study [Attachment 16 in the 1st OTS referral]. In addition, OTS would like to know why the westbound left-turn lane length provided at the main site entrance (510 feet) is shorter than the maximum length (550 feet) noted in the study [Attachment 16 in the 1st OTS referral].

Applicant's Response (August 11, 2009): The table was derived by PHR+A from VDOT Location and Design calculations for another public road project in the County. The Alternative AASHTO column was shown to reflect the VDOT L&D, Traffic Engineering, and Land Development direction that the AASHTO turn lane standards could be satisfied based on the length of turn lane and storage. No written standards have been adopted by VDOT other than revisions to the VDOT Regional Road Design Manual. However, based on current land use application review regarding design waivers, since Business 7 is not a National Highway System Route, the application of the VDOT Road Design Manual minimum turn lane standards should apply. Or a 55 MPH speed limit, the turn lane storage is based on capacity analyses for urban conditions with a minimum storage length of 200 feet. A 200 foot taper is required for roads with over 45 MPH design speed. For the subject site use, PHR+A revised table 10, as attached, to show the storage requirements in relation to VDOT Road Design standards and concluded that the turn lane[s] are adequate. The comparisons also show the minimum turn lane requirements for AASHTO guidelines for 50 [MPH] and 55 [MPH] design speeds, for comparison purposes. The left turn lane into the site is 510 feet (410 ft turn plus 100 ft taper) allows for storage and deceleration per AASHTO minimum requirements at 50 MPH design, and exceeds the minimum VDOT standards of 400 feet. VDOT review did not highlight any turn lane issues.

Issue Status: Issue resolved.

3. Initial Staff Comment (1st Referral): Consistent with the traffic study's 2010 recommendation, the eastbound left-turn lane into the main site entrance and the westbound right-turn lane into the bus access lane and main site entrance should be installed prior to the opening of Phase 1 of this project. In addition, the plat should be clarified to clearly indicate the length of each turn lane proposed.

Applicant's Response (August 11, 2009): The plat has been updated to include the turn lane lengths (taper + storage).

Issue Status: Issue resolved.

4. Initial Staff Comment (1st Referral): It does not appear that the right-turn lane is long enough to allow for sufficient deceleration of buses accessing the site. The right-turn lane should begin at an appropriate point prior to the bus entrance.

Applicant's Response (August 11, 2009): The right turn length into the bus area has a storage length of 410 feet to the return and 190 foot taper. The VDOT Road Design Manual requirements show a 200 foot turn lane with 200 foot taper. The increase in storage length, as measured from the bus entrance curb return, reflects adequate AASHTO deceleration area for the buses at a 55 MPH speed, with the inclusion of turn lane and taper area. The proposed design should satisfy VDOT requirements.

Issue Status: Issue resolved.

5. Initial Staff Comment (1st Referral): Appropriate signage should be installed to (1) prohibit all eastbound left turns into the bus entrance, and (2) prohibit non-authorized vehicles from accessing the site via the bus entrance.

Applicant's Response (August 11, 2009): Agreed. To be includ[ed] in signing and pavement marking plan for the site plan.

Issue Status: Issues resolved, pending inclusion of condition language to this effect.

6. Initial Staff Comment (1st Referral): All-way stop control (stop signs) should be installed, pending VDOT approval, at the intersection of East Colonial Highway/Dry Mill Road and Charlestown Pike (Intersection 10) prior to the opening of Phase 1 of this project.

Applicant's Response (August 11, 2009): Agreed, conditions should be added, subject to VDOT approval.

Issue Status: Issue resolved, pending inclusion of condition language to this effect.

7. Initial Staff Comment (1st Referral): The traffic study indicates that, under 2020 conditions, a dedicated eastbound left-turn lane on East Colonial Highway and a dedicated westbound right-turn lane on Dry Mill Road at Charlestown Pike (Intersection 10) would improve overall intersection LOS at this location to acceptable levels during both weekday AM and PM peak hours as well as on Saturday. A contribution commensurate with the site impacts should be provided.

Applicant's Response (August 11, 2009): The applicant will commit to a pro-rated contribution for future intersection improvements, and would contribute to the County Transportation fund prior to the opening of Phase 2 of the park.

Issue Status: OTS staff appreciates the Applicant's commitment to a pro-rated contribution towards future intersection improvements. Based on further review of the traffic study and discussions with the Applicant, OTS staff believes that a contribution based on site-generated impacts is more appropriate for the intersection of Hamilton Station Road and East Colonial Highway, as outlined in Comment #8 below. **Issue resolved.**

8. **Initial Staff Comment (1st Referral):** The traffic study indicates that, under 2020 conditions, the installation of a mini-roundabout at the intersection of East Colonial Highway and Hamilton Station Road (Intersection 3) would result in acceptable LOS at this location during both the weekday AM and PM peak hours as well as on Saturday. Further discussion on potential improvements at this location is necessary and need to include the Town of Hamilton as the intersection is in close proximity to the town limits. OTS staff requests further information as to whether a traffic signal was considered for this location. In any case, a contribution commensurate with the site impacts should be provided.

Applicant's Response (August 11, 2009): The applicant will commit to a pro-rated contribution for future intersection improvements, and would contribute to the County Transportation Fund prior to [the] opening of Phase 2 of the park.

In evaluating mitigation measures, the analysis did consider if signalization would be appropriate, but based on the projected 2020 peak hour volumes, a signal would not be warranted based on MUTCD volume guidelines. VDOT would typically require a multi-hour warrant study for an existing intersection to justify signal installation, so review of a roundabout was included as [a] potential alternative. Note that the LOS is adequate with Phase 1 development.

Issue Status: OTS staff appreciates the Applicant's commitment to a pro-rated contribution towards future intersection improvements at this location. OTS recommends that the Applicant contribute \$130,000.00 toward future transportation improvements in the area prior to the opening of Phase 2 of the park; this figure is representative of the site-generated impacts on left turn movements from southbound Hamilton Station Road to eastbound East Colonial Highway. **Issue resolved, pending inclusion of condition language to this effect.**

9. **Initial Staff Comment (1st Referral):** OTS staff recommends that the multi-use path along the length of site should be increased to 10 feet in width per AASHTO guidelines.

Applicant's Response (August 11, 2009): A multi-use trail has been added along the frontage of the property. It will be 10' in width when constructed in the future.

Issue Status: OTS staff recommends that the trail be constructed in phases, with the segment along the frontage of the park and ride lot constructed prior to

the opening of Phase 1. Issue resolved, pending inclusion of condition language to this effect.

Conclusion

Subject to the inclusion of condition language as noted in this referral, OTS has no objection to the approval of these applications. OTS recommends that the speed limit reduction discussed in Comment #1 be pursued with VDOT.

cc: Andrew Beacher, Assistant Director, OTS
Lou Mosurak, Senior Coordinator, OTS
Nancy Gourley, Transit Division Manager, OTS

County of Loudoun

Office of Transportation Services

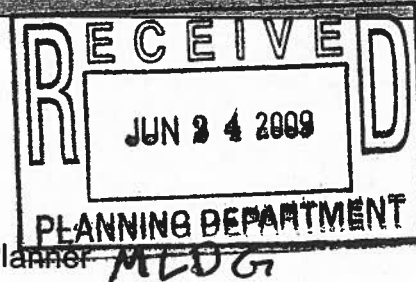
MEMORANDUM

DATE: June 24, 2009

TO: Jane McCarter, Project Manager
Department of Planning

FROM: Marc Lewis-DeGrace, Transportation Planner

SUBJECT: CMPT 2009-0003, SPEX 2009-0004 & SPEX 2009-0015 –
Scott Jenkins Memorial Park
First Referral



Background

These Commission Permit (CMPT) and Special Exception (SPEX) applications propose an active recreational park with lighted fields and a 250-space commuter parking lot on an approximately 35-acre site in the Agricultural Rural (AR-1) zoning district. The site is located on the north side of East Colonial Highway (Business Route 7), approximately one (1) mile east of the Town of Hamilton. Access to the proposed uses would be via two new entrances from Business Route 7, one for passenger vehicles (for both the park facilities and commuter parking lot) and the other for the exclusive use of commuter buses. A vicinity map is provided as *Attachment 1*, and a reduced version of the special exception plat depicting the site layout is provided as *Attachment 2*.

In its consideration of these applications, the Office of Transportation Services (OTS) reviewed materials received from the Department of Planning on April 6, 2009, including (1) a statement of justification, dated February 2009, (2) a traffic impact study, dated February 18, 2009, along with supplemental traffic information dated March 20, 2009, and (3) a Commission Permit/Special Exception plat (plan set), dated February 2009, all prepared by Patton Harris Rust Associates, P.C.

Existing, Planned and Programmed Transportation Facilities

According to the Revised General Plan, the site is located within the Rural Policy Area. Major roadways serving the site are described below. OTS' review of existing and planned transportation facilities is based on the 2001 Revised Countywide Transportation Plan (2001 Revised CTP) and the 2003 Bicycle & Pedestrian Mobility Master Plan (2003 Bike & Ped Plan).

East Colonial Highway (Business Route 7) (segment from Hamilton Station Road (Route 704) east to Charlestown Pike (Route 9)/Dry Mill Road (Route 699) is classified by the 2001

Revised CTP as a major collector, and is a designated Virginia Scenic Byway. It is built to its ultimate planned two-lane rural undivided (R2) section within a variable right-of-way (ROW).

The 2003 Bike & Ped Plan categorizes this segment of roadway as a “baseline connecting roadway” along which bicycle and pedestrian facilities are envisioned. Currently, there are two existing four-foot sidewalks along East Colonial Highway to the west of the site; on the north side of the road, a sidewalk is in place from the end of the Old South Restaurant property and Twinoaks Place (approximately 600 feet); on the south side of the road, a sidewalk is in place from the Hamilton Town Limits to the eastern end of the Hamilton Rescue Squad property (approximately 1,500 feet).

Harry Byrd Highway (Route 7) (segment from the Route 7 Business interchange at Round Hill east to the Route 9 interchange) is classified by the 2001 Revised CTP as a principal arterial. It is currently built as a four-lane median divided (R4M) limited access facility with grade-separated interchanges at (1) Route 7 Business at Round Hill, (2) Route 287 (Berlin Turnpike); (3) Route 704 (Hamilton Station Road), and (4) Route 9 (Charlestown Pike). The 2001 Revised CTP calls for future widening to six-lanes (within the existing 200-foot ROW), along with construction of an additional grade-separated interchange at Route 690 (Hillsboro Road).

Hamilton Station Road (Route 704) (segment from Business Route 7 north to Route 9) is classified by the 2001 Revised CTP as a major collector. It is currently built as a two-lane local access rural (R2) section within a variable ROW. A grade-separated interchange is in place at Route 7, and a traffic signal is in place at Route 9. The adopted 2001 Revised CTP, calls for Hamilton Station Road to remain a two-lane (R2) facility within a 50-foot ROW.

The 2003 Bike & Ped Plan categorizes Hamilton Station Road as a “baseline connecting roadway” along which bicycle and pedestrian facilities are envisioned.

Harmony Church Road (Route 704) (segment from Business Route 7 south to Hughesville Road (Route 725)) is classified by the 2001 Revised CTP as a major collector, and is a designated Virginia Scenic Byway. It is currently built as a two-lane local access rural (R2) section within a variable ROW. The adopted 2001 Revised CTP, calls for Harmony Church Road to remain a two-lane (R2) facility. The adopted 2001 Revised CTP calls for Harmony Church Road to remain a two-lane (R2) facility.

The 2003 Bike & Ped Plan categorizes Harmony Church Road as a “baseline connecting roadway” along which bicycle and pedestrian facilities are envisioned.

Charlestown Pike (Route 9) (segment from Business Route 7 northwest to Hamilton Station Road (Route 704)) is classified by the 2001 Revised CTP as a minor arterial, and is a designated Virginia Scenic Byway. It is currently built as two-lane local access rural (R2) section within a variable ROW. A grade-separated interchange is in place at Route 7, and traffic signals are in place at Clarkes Gap Road (Route 662) and at Hamilton Station Road (Route 704). The adopted 2001 Revised CTP calls for Charlestown Pike to remain a two-

lane rural (R2) facility but with minor widening and installation of turn lanes at major intersections.

The 2003 Bike & Ped Plan categorizes Charlestown Pike as a “baseline connecting roadway” along which bicycle and pedestrian facilities are envisioned in the future. The W&OD Trail travels along the west side of Route 9 from Business Route 7 north for approximately 800 feet (on the bridge over Route 7) before turning northwest into Paeonian Springs.

Canby Road (Route 662) is a local secondary road which intersects Business Route 7 east of the proposed site. As a local road, Canby Road is not part of the CTP network and is not governed by the 2001 Revised CTP.

Dry Mill Road (Route 699) is a local secondary road which connects Business Route 7 (east of the site) and West Loudoun Street (in the Town of Leesburg); it is a designated Virginia Scenic Byway. As a local road, Dry Mill Road is not part of the CTP network and is not governed by the 2001 Revised CTP. The W&OD Trail roughly parallels Dry Mill Road between the Business Route 7/Route 9 intersection and the Town of Leesburg.

Review of Submitted Traffic Study

The Applicant's submitted traffic study (dated February 18, 2009) analyzed current and future traffic conditions in the area, focusing on seven existing and three future intersections (the future intersections include the main site entrance from East Colonial Highway as well as two internal intersections on the site). Existing lane use and traffic control for the intersections analyzed is illustrated on *Attachment 3*. The project is proposed to be constructed in two phases: Phase 1 (to be completed by 2010) consists of a 250-space commuter parking lot with two bus bays (to be served by the County's commuter bus service in the AM and PM weekday peak periods), as well as the initial baseball field for the park; Phase 2 (to be completed by 2020) would add the remaining park uses, including three baseball fields, one large rectangular sports field and an additional 261 parking spaces. The study analyzed the commuter parking lot use in light of its peak hour weekday traffic impacts, while the park use was analyzed in light of both its weekly and Saturday peak hour traffic impacts. Relevant portions of the study are summarized below.

Existing (2008) Traffic Volumes and Levels of Service (LOS)

Attachment 4 illustrates existing average daily traffic volumes in the vicinity of the subject site. Traffic counts were taken in December 2008 at the seven existing intersections in the study area both during weekday AM and PM peak hours as well as during midday hours on Saturday; counts are depicted on *Attachment 5*. The study indicates that in December 2008, East Colonial Highway carried between 4,500 and 4,725 vehicles per day (VPD) near the site.

Attachments 6 & 7 summarize existing intersection LOS in the vicinity of the site. Under existing traffic controls, the westbound Route 7 exit ramp at Route 9 (Intersection 8) operates at failing LOS during the weekday PM peak hour, while the eastbound Route 7 exit ramp at Route 9 (Intersection 9) operates at failing LOS during both AM and PM weekday peak hours

as well as during the Saturday midday peak. The overall southbound movement at Route 9 and East Colonial Highway/Dry Mill Road (Intersection 10) operates at failing LOS during the weekday AM peak hour.

Background Traffic Growth

The traffic study assumes a 4.0% annual growth rate for traffic volumes along Business Route 7 in the vicinity of this site. This figure is consistent with housing growth trends for the Route 7 West Planning Subarea contained in the 2007 Loudoun County Growth Summary.

Trip Generation from Proposed Development

As noted above, the site is proposed to be developed in two phases: Phase 1 (2010) is proposed to consist of a 250-space commuter parking lot and the initial baseball field for the park. Phase 2 (2020) would add the remaining park uses, including three baseball fields, one large rectangular sports field and an additional 261 parking spaces. It is noted that the traffic study used a combination of ITE trip generation codes (412 – County Park; 417 – Regional Park, and 488 – Soccer Complex) and assumed the highest possible trip generation for the proposed park uses. Trip generation figures for Phase 1 are listed in *Attachment 8* and summarized in the table below:

Phase 1 (Interim) Trip Generation – 2010

Land Use	Amount	AM Peak Hour			PM Peak Hour			Daily Total	Sat Peak Hour			Sat Total
		In	Out	Total	In	Out	Total		In	Out	Total	
Maximum Park Uses (ITE Code 488)	1 field	2	2	4	19	18	28	96	16	18	34	243
Park & Ride Lot (ITE Code 90)	250 Spaces	146	34	180	36	119	155	1,125	0	0	0	0
Total Trips (Interim)		148	36	184	55	128	183	1,221	16	18	34	243

Trip generation figures for Phase 2 are listed in *Attachment 9* and are summarized in the table below:

Phase 2 (Buildout) Trip Generation – 2020

Land Use	Amount	AM Peak Hour			PM Peak Hour			Daily Total	Sat Peak Hour			Sat Total
		In	Out	Total	In	Out	Total		In	Out	Total	
Max. Park Uses (ITE Codes 488, 412, 417)	5 fields/ 30 acres	10	9	19	97	43	140	1,608	81	87	168	1,200
Park & Ride Lot (ITE Code 90)	250 Spaces	146	34	180	36	119	155	1,125	0	0	0	0
Total Trips (Buildout)		156	43	199	133	162	295	1,606	81	87	168	1,200

Trip Distribution & Assignment

The traffic study (*Attachment 10*) distributed peak hour site-generated trips on the road network based on previous traffic studies, existing traffic patterns and input from Loudoun County OTS staff. For Phases 1 (2010) and 2 (2020), the TIA provides estimates for both the commuter parking lot generated traffic and the sports-related uses. A component of these site-generated trips is the commuter buses traveling to and from the commuter lot during the weekday AM and PM peak periods.

For commuter lot trips, the study estimates that 80% of the site-generated trips would arrive from the west via East Colonial Highway; the remaining 20% of site-generated trips are estimated to arrive from the east via East Colonial Highway from Charlestown Pike.

For park-related trips, the study estimates that 55% of the site-generated trips would arrive at the site from the west via East Colonial Highway; the remaining 45% of site-generated trips are estimated to arrive from the east via East Colonial Highway.

Commuter Bus Routing

It is envisioned that all of the commuter buses (in the AM and PM) will access the site from the east via the Route 9 interchange and East Colonial Highway. Buses exiting in the AM will make a left-turn from the site and continue eastbound to the Route 9 interchange to locations at points east. The traffic study anticipates 12 bus trips to/from this site in the AM.

Buses exiting in the PM will make a right-turn from the site and continue west on East Colonial Highway to Hamilton Station Road (Route 704) to Route 7 west to points further west in Loudoun County. The traffic study anticipates 18 bus trips to/from this site in the PM.

Forecasted (2010) Traffic Volumes, Levels of Service, and Mitigation Measures

Under background conditions (without the proposed development) in 2010, the traffic study (*Attachment 11*) indicates that the same intersections/movements that currently experience unacceptable LOS under existing (2008) conditions (Intersections 8, 9 and 10) will continue to operate as such with increased delays. It is noted that the southbound left-turn movement from Charlestown Pike to eastbound Route 7 (Intersection 9) moves from an acceptable LOS (LOS D) under existing conditions to an unacceptable LOS (LOS F) in the weekday AM peak hour.

With the proposed development (total future conditions) in 2010, the traffic study (*Attachment 12*) indicates that Intersections 8, 9 and 10 continue to experience unacceptable LOS with additional increases in delays.

Regarding mitigation measures to be completed before the site opening in 2010 (Phase 1), the traffic study (*Attachment 13*) indicates that the installation of all-way stop signs at Charlestown Pike/East Colonial Highway/Dry Mill Road (Intersection 10), while increasing overall delays at this location, would result in overall acceptable LOS at this intersection during the weekday AM and PM hours (LOS D and LOS C, respectively).

The traffic study also examined the need for left- and right-turn lanes into the site, also prior to the site opening in 2010. Based on VDOT turn lane warrants, a left-turn lane is required at the main site entrance (*Attachment 14*). A right-turn lane is not required based on VDOT warrants (*Attachment 15*), but the study recommends that a right-turn lane be installed due to the operational improvements that would result as well as driver expectations in the area. The study proposes that the length of the turn lanes be based on a reduced speed limit of 45 MPH (50 MPH design speed) (*Attachment 16*).

Future lane use and traffic control at the main site entrance (Intersection 4) and on-site intersections (Intersections 5 and 6) are depicted on *Attachment 17*.

Forecasted (2020) Traffic Volumes, Levels of Service, and Mitigation Measures

Without the proposed development (background conditions) in 2020, the traffic study indicates that the intersections/movements that operate at failing LOS under existing (2008) conditions (Intersections 8, 9 and 10) will continue to operate at failing LOS (*Attachment 18*), with further delays. It should be noted that the south-bound left movement of Intersection 9 is degraded from an acceptable LOS (LOS D) in 2008 to an unacceptable LOS (LOS F) in 2020.

Under total future conditions (with the proposed development) in 2020, the traffic study (*Attachment 19*) indicates that Intersections 8, 9 and 10 will continue to operate at unacceptable LOS. In addition, Intersection 3 (East Colonial Highway and Hamilton Station Road) and Intersection 4 (East Colonial Highway and the proposed main site entrance) have movements that are forecast to operate at failing LOS. The southbound movement on Hamilton Station Road (Route 704) at East Colonial Highway is forecast to experience unacceptable LOS (LOS F) in the weekday AM and PM hours. The southbound left-turn movement exiting the site to East Colonial Highway is also forecast to experience unacceptable LOS (LOS E) in the AM peak hour with the proposed development.

Regarding mitigation measures, the traffic study (*Attachment 13*) indicates that, in addition to the all-way stop control identified for the 2010 opening of the site, a separate left-turn lane on East Colonial Highway and a separate right-turn lane on Dry Mill Road at Charlestown Pike (Intersection 10) would be required as a result of additional growth. At the intersection of East Colonial Highway and Hamilton Station Road (Intersection 3), the study indicates that the installation a mini-roundabout would result in an overall acceptable LOS at this location during both weekday peak hours and on Saturday.

Transportation Comments

1. The traffic study recommends that the speed limit be lowered to 45 MPH for the entire segment of East Colonial Highway (Business Route 7) between Hamilton Station Road (Route 704) and Charlestown Pike (Route 9) due to existing roadway conditions. OTS staff notes that the Board of Supervisors would need to request such a speed limit reduction from VDOT, and that a speed study would need to be completed. OTS defers to VDOT's traffic engineering section for additional comments on this matter.

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2. OTS staff requests further explanation of the "alternative length" measurement used in the traffic study (*Attachment 16*). In addition, OTS would like to know why the westbound left-turn lane length provided at the main site entrance (510 feet) is shorter than the maximum length (550 feet) noted in the study (*Attachment 16*).
3. Consistent with the traffic study's 2010 recommendation, the eastbound left-turn lane into the main site entrance and the westbound right-turn lane into the bus access lane and main site entrance should be installed prior to the opening of Phase 1 of this project. In addition, the plat should be clarified to clearly indicate the length of each turn lane proposed.
4. It does not appear that the right-turn lane is long enough to allow for sufficient deceleration of buses accessing the site. The right-turn lane should begin at an appropriate point prior to the bus entrance.
5. Appropriate signage should be installed to (1) prohibit all eastbound left turns into the bus entrance, and (2) prohibit non-authorized vehicles from accessing the site via the bus entrance.
6. All-way stop control (stop signs) should be installed, pending VDOT approval, at the intersection of East Colonial Highway/Dry Mill Road and Charlestown Pike (Intersection 10) prior to the opening of Phase 1 of this project.
7. The traffic study indicates that, under 2020 conditions, a dedicated eastbound left-turn lane on East Colonial Highway and a dedicated westbound right-turn lane on Dry Mill Road at Charlestown Pike (Intersection 10) would improve overall intersection LOS at this location to acceptable levels during both weekday AM and PM peak hours as well as on Saturday. A contribution commensurate with the site impacts should be provided.
8. The traffic study indicates that, under 2020 conditions, the installation of a mini-roundabout at the intersection of East Colonial Highway and Hamilton Station Road (Intersection 3) would result in acceptable LOS at this location during both the weekday AM and PM peak hours as well as on Saturday. Further discussion on potential improvements at this location is necessary and need to include the Town of Hamilton as the intersection is in close proximity to the town limits. OTS staff requests further information as to whether a traffic signal was considered for this location. In any case, a contribution commensurate with the site impacts should be provided.
9. OTS staff recommends that the multi-use path along the length of site should be increased to 10 feet in width per AASHTO guidelines.

Conclusion

Subject to resolution of the issues identified in this referral, OTS would not object to the approval of these applications. OTS staff is available to meet with project representatives to further discuss these comments.

A-35

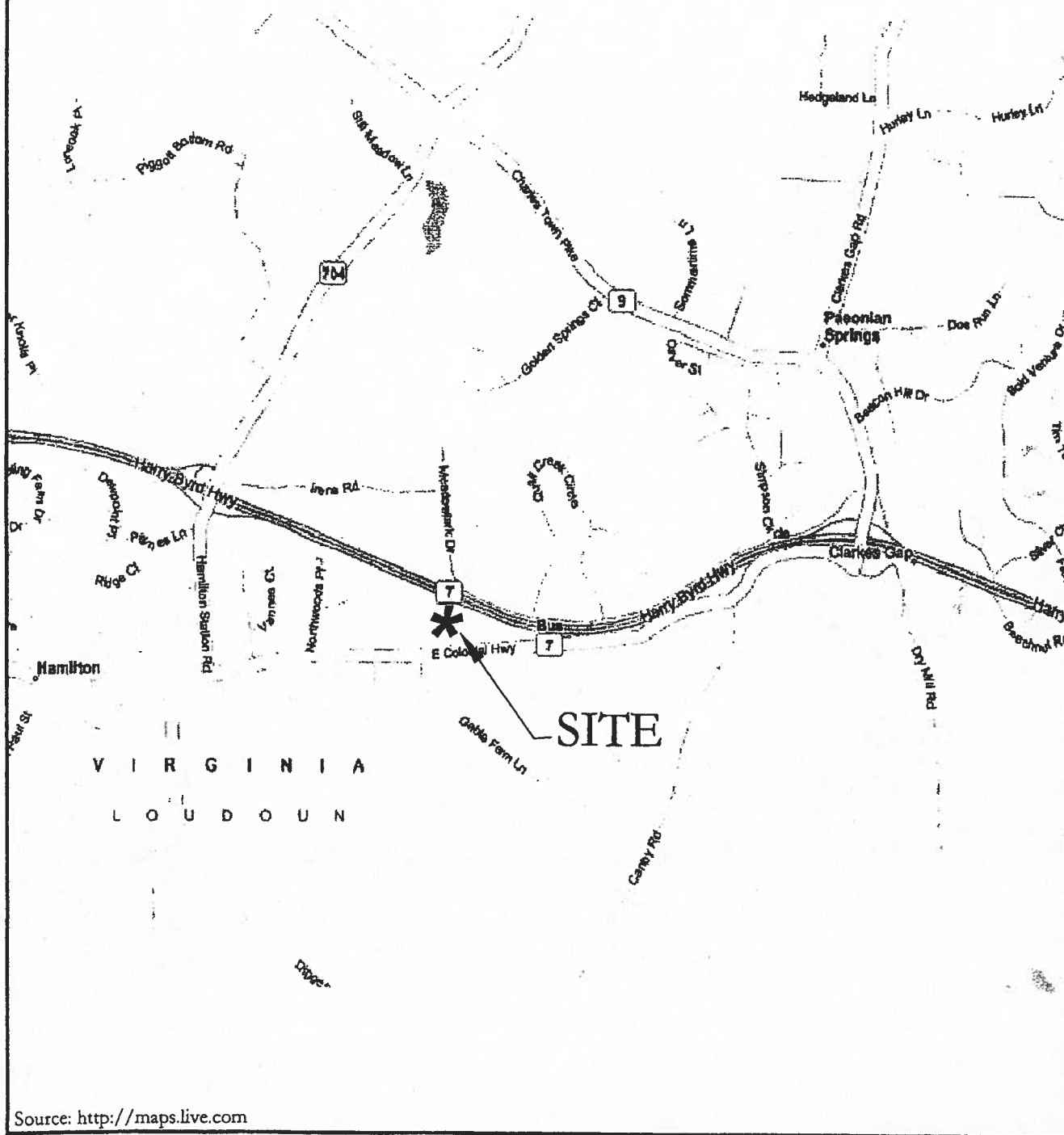
ATTACHMENTS

1. Site Vicinity Map [Traffic Study Figure 1]
2. Site Concept Plan [Traffic Study Figure 4]
3. Existing (2008) Roadway Lane Geometry [Traffic Study Figure 6]
4. Existing (2008) Traffic Conditions [Traffic Study Figure 7A]
5. Existing (2008) Traffic Volumes [Traffic Study Figure 7B]
6. Existing (2008) Level of Service [Traffic Study Figure 7C]
7. Existing (2008) Intersection Level of Service [Traffic Study Table 2]
8. Phase 1 (2010) Trip Generation [Traffic Study Table 7]
9. Trip Generation Variables/Total Trip Generation [Traffic Study Table 5]
10. Site Trip Distributions [Traffic Study Figure 11]
11. Background (2010) Intersection Level of Service [Traffic Study Table 4A]
12. Total (2010) Intersection Level of Service [Traffic Study Table 8A]
13. Mitigation Measures [Traffic Study Figure 18]
14. Total (2010) Left Turn Warrant @ E Colonial Hwy/Site Driveway [Traffic Study Figure 17B]
15. Total (2010) Right Turn Warrant @ E Colonial Hwy/Site Driveway [Traffic Study Figure 17A]
16. Turn Lane Calculations [Traffic Study Table 10]
17. Future Roadway Lane Geometry [Traffic Study Figure 14]
18. Background (2020) Intersection Level of Service [Traffic Study Table 4B]
19. Total (2020) Intersection Level of Service [Traffic Study Table 8B]

cc: Andrew Beacher, Assistant Director, OTS
Lou Mosurak, Senior Transportation Planner, OTS
Nancy Gourley, Transit Division Manager, OTS



Not to Scale



PHR+A

Site Location
Scott Jenkins Memorial Park

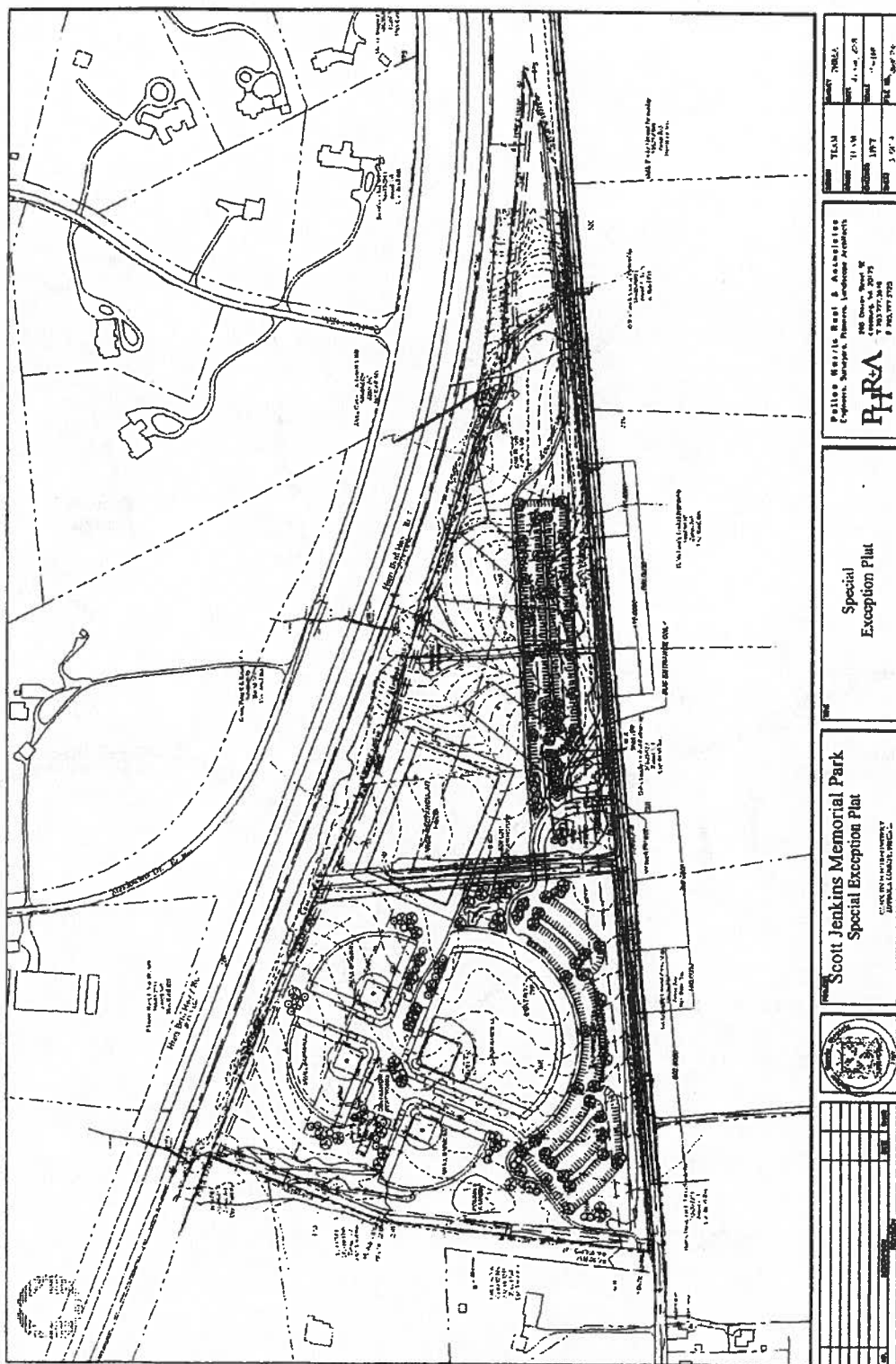
FIGURE 1

February 2009
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ATTACHMENT 1

A-37



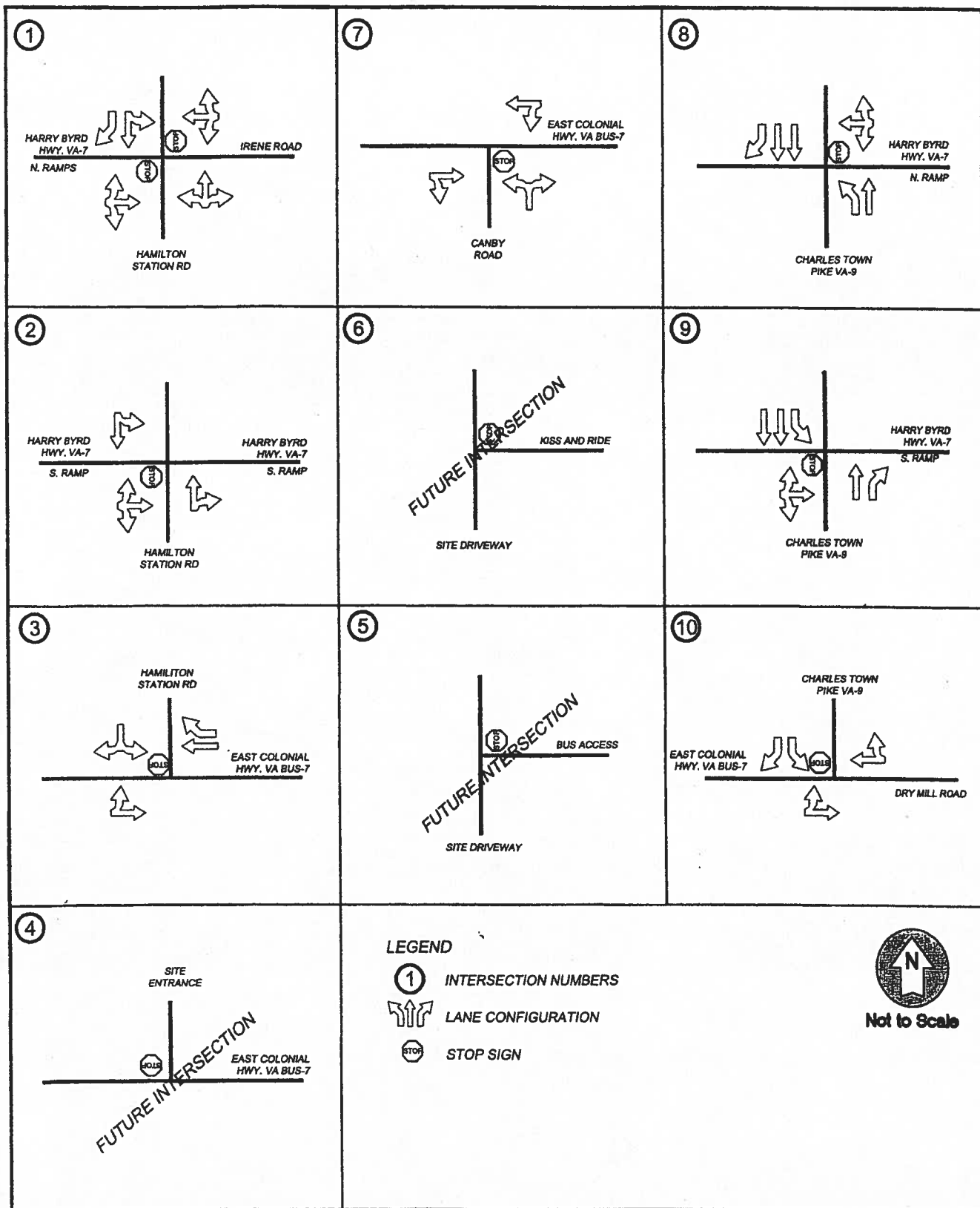
Source: PHIR+A, Jan 2009



Site Concept Plan

Scott Jenkins Memorial Park

FIGURE 4
February 2009
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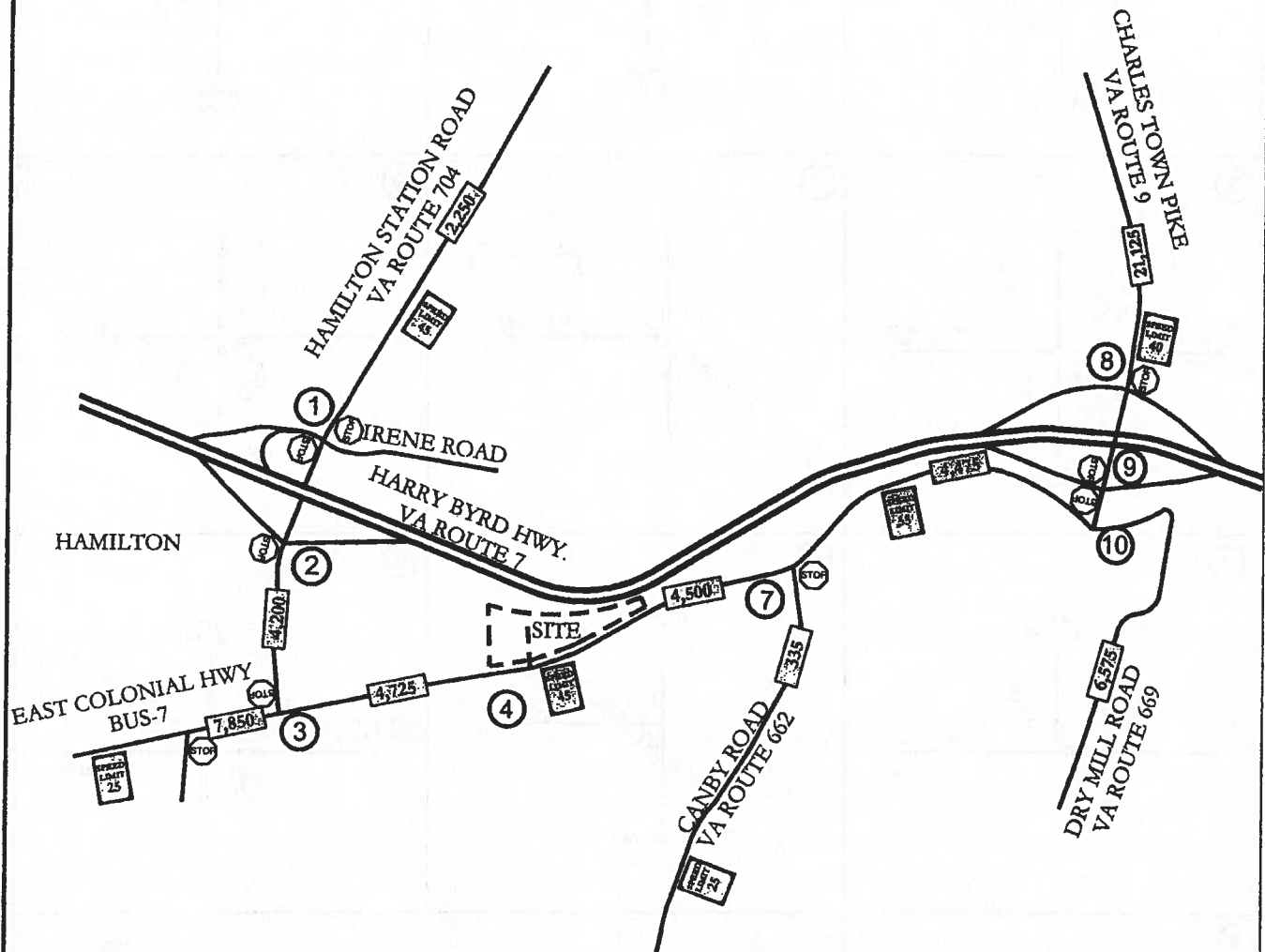


Existing (2008) Roadway Lane Geometry Scott Jenkins Memorial Park

FIGURE 6
February 2009
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Not to Scale



LEGEND

① INTERSECTION NUMBER

--- FUTURE SITE DRIVEWAY

STOP SIGN

POSTED SPEED LIMIT

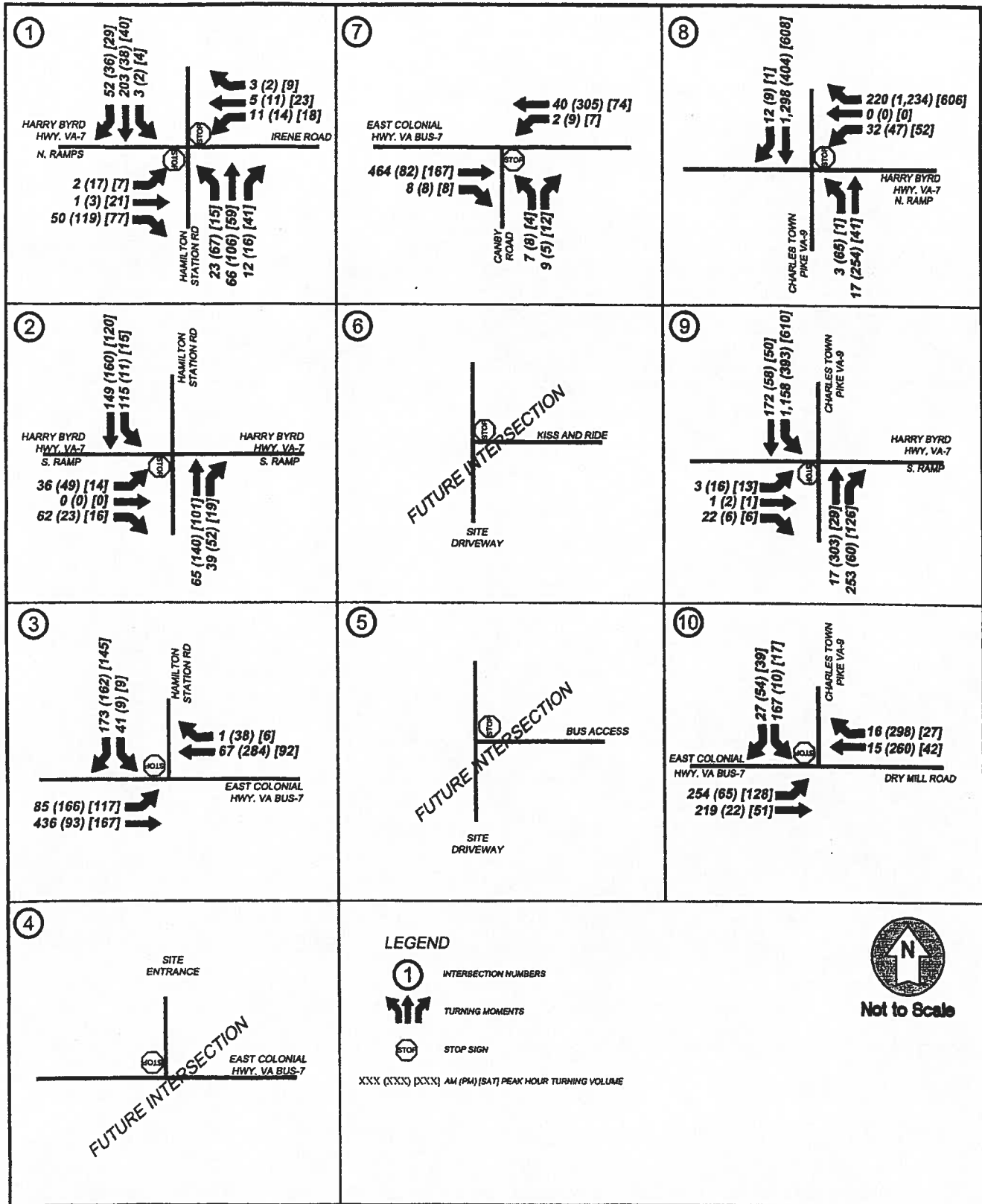
ADT 4000 AVERAGE DAILY TRAFFIC VOLUME



Existing (2008) Traffic Conditions
Scott Jenkins Memorial Park

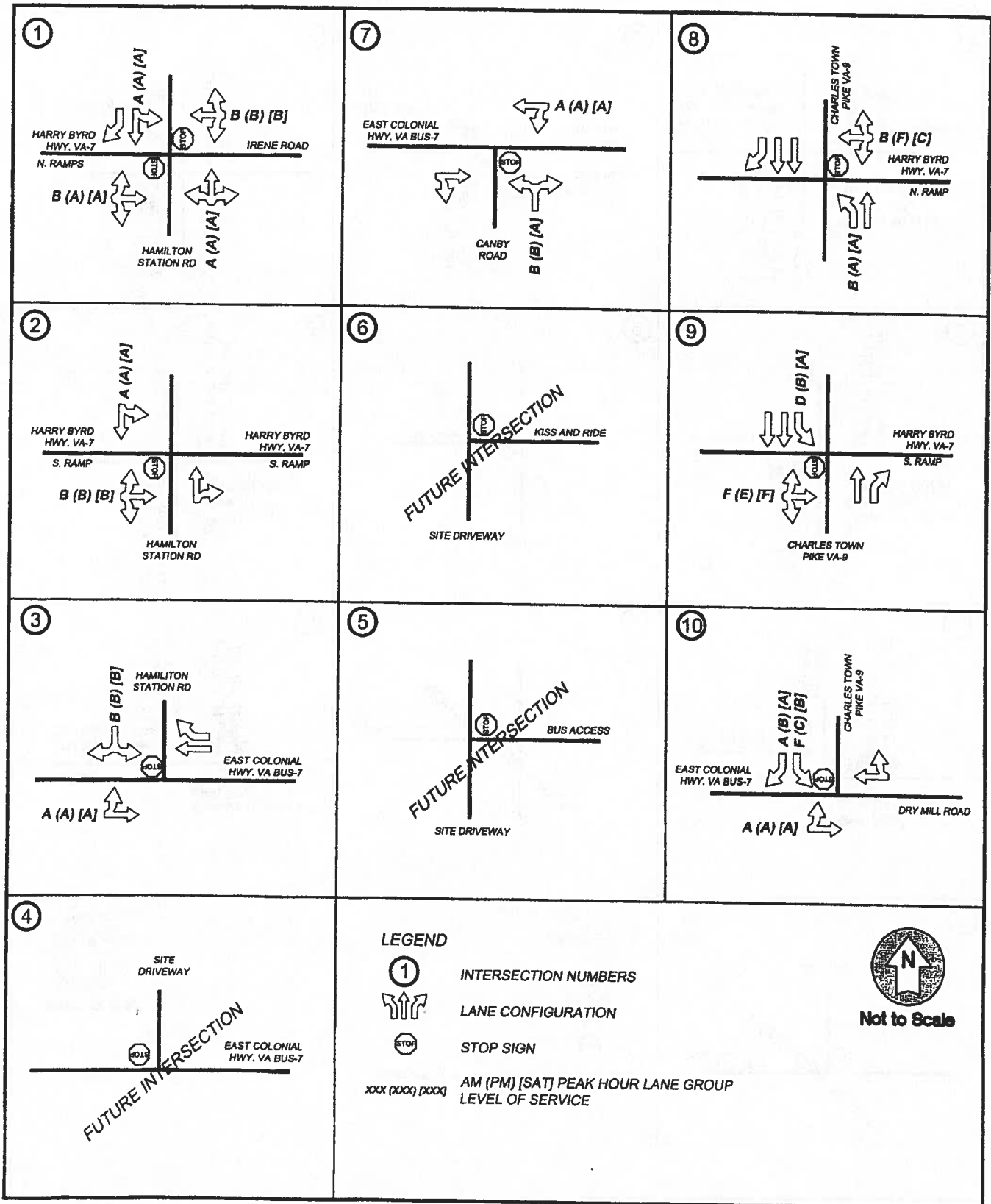
FIGURE 7A
February 2009
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Existing Traffic Volumes (2008) Scott Jenkins Memorial Park

FIGURE 7B
February 2009
13608-2-0



Existing (2008) Level of Service
Scott Jenkins Memorial Park

FIGURE 7C
February 2009
13608-2-0

Existing 2008 Intersection Level of Service

Scenario		2008		2008		2008	
Intersection	Lane Group	AM Peak Existing		PM Peak Existing		Sat Peak Existing	
		LOS	Delay	LOS	Delay	LOS	Delay
1 VA RT 7 N Ramps/Irene Rd/Hamilton Station Rd <i>Unsignalized</i>	EBLTR	B	10.1	A	9.8	A	9.6
	EB	B	10.1	A	9.8	A	9.6
	WBLTR	B	12.2	B	13.1	B	10.8
	WB	B	12.2	B	13.1	B	10.8
	NBLTR	A	1.9	A	2.9	A	1
	NB	A	1.9	A	2.9	A	1
	SBLT	A	0.1	A	0.4	A	0.7
2 VA RT 7 S Ramps/Hamilton Station Rd <i>Unsignalized</i>	EBLTR	B	12.1	B	11.7	B	10.1
	EB	B	12.1	B	11.7	B	10.1
	SBLT	A	3.7	A	0.6	A	0.9
	SB	A	3.7	A	0.6	A	0.9
3 E Colonial Hwy/Hamilton Station Rd <i>Unsignalized</i>	EBLT	A	1.8	A	6	A	3.7
	EB	A	1.8	A	6	A	3.7
	SBLR	B	12.3	B	12.6	B	10
	SB	B	12.3	B	12.6	B	10
7 E Colonial Hwy/Canby Road <i>Unsignalized</i>	WBLT	A	0.4	A	0.3	A	0.7
	WB	A	0.4	A	0.3	A	0.7
	NBLR	B	13.8	B	10.7	A	9.8
	NB	B	13.8	B	10.7	A	9.8
8 VA RT 7 N Ramps/VA RT 9 <i>Unsignalized</i>	WBLTR	B	12.2	F	556.7	C	18.7
	WB	B	12.2	F	556.7	C	18.7
	NBL	B	12.2	A	8.6	A	9
9 VA RT 7 S Ramps/VA RT 9 <i>Unsignalized</i>	EBLTR	F	N/A	E	48.1	F	61.3
	EB	F	N/A	E	48.1	F	61.3
	SBL	D	34.9	B	10.3	A	9.8
10 E Colonial Hwy/Dry Mill Rd/VA RT 9 <i>Unsignalized</i>	EBLT	A	5.1	A	7.3	A	5.7
	SBL	F	66.2	C	15.3	B	12
	SBR	A	8.5	B	12.5	A	8.8
	SB	F	58.2	B	13	A	9.8

ATTACHMENT 7

Table 7
Phase 1 Trip Generation

February 2009

ITE Land Use (1)

<u>CODE</u>	<u>CODE</u>	<u>DENSITY</u>	<u>Var.</u>	<u>USE</u>	<u>AM PEAK HOUR</u>			<u>PM PEAK HOUR</u>			<u>DAILY</u>
					<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>	<u>IN</u>	<u>OUT</u>	<u>TOTAL</u>	<u>(2-way)</u>
<div>Weekday</div>											
488	488.0	1 fields		Soccer Complex	1	0	1	14	7	21	71
488	488.1	1 fields		Soccer Complex (Factored)	1	1	2	19	9	28	96
488	488.2	1 fields		Soccer Complex (Max rates)	1	1	2	17	8	25	91
488	488.3	1 fields		Soccer (Generator Max)	2	2	4	9	18	27	96
				Max Trips (Park)	2	2	4	19	9	28	96
				Average Trips (Soccer Park)	1	1	2	15	10	25	87

90	90.2	1 fields		Atheletic Fields	2	2	4	19	9	28	96
		250 spaces		Park & Ride Lot	146	34	180	36	119	155	1,125
Total Trips (Proposed SPEX)					148	36	184	55	128	183	1,221

Park & Ride Lot Trips

250 spaces	BUS Trips**	6	6	12	8	8	16	60
250 spaces	Effective Vehicle Trips	140	28	168	28	111	139	1,065
Total Park & Ride Lot Trips		146	34	180	36	119	155	1,125

Saturday

CODE	CODE	DENSITY	Var.	USE	SAT PEAK HOUR			SAT DAILY (2-way)
					IN	OUT	TOTAL	
488	488.400	1 fields		Soccer Complex (Sat)	0	0	0	117
488	488.800	1 fields		Soccer (Sat)	14	15	29	0
488	488.900	1 fields		Soccer (Sat Generator Max)	16	18	34	0
412	412.300	10 acres		County Park (Sat)	13	9	22	121
412	412.400	10 acres		County Park (Sat Max)	19	13	32	247
				Max Trips (Park)	19	18	34	247
				Average Trips (Park)	16	13	29	162
		1 fields	^^	Atheletic Fields (Saturday)	16	18	34	243
		250 spaces		Park and Ride (Saturday)	0	0	0	0
Total Trips (Proposed SPEX)					16	18	34	243

			<u>AM Peak Hour</u>		<u>PM Peak Hour</u>		<u>Daily</u>	
<i>Effective Trip Rates (3)</i>			Trip rate per	(2-way)	Inbound %	(2-way)	Inbound %	<u>Weekday</u> <u>(2-way)</u>
ITE Land Use Code								
	Atheletic Fields	fields	4.00	50%	28.00	68%	96.00	
90	Park & Ride Lot	spaces	0.72	81%	0.62	23%	4.50	
	Atheletic Fields (Saturday)	fields			34.00	47%	243.00	
488	Soccer Complex	fields	1.00	100%	21.00	67%	71.00	
488	Soccer Complex (Sat)	fields			29.00	48%	117.00	

TRIP RATE SOURCE:

Trip Generation Manual (8th Edition), Institute of Transportation Engineers: 2008.

Average trip rates used, unless noted with * then equations used.

(1) ITE Land Code shown as the first 3 digits. Decimal shown for internal use by PHR+A for lookup table for trip rate variable.

^^ Saturday Average of max trips and average soccer park, derived based on K=0.14 to allow for peak use at 4.0 trips/space

Trip rate calculation = 2-way Trips (In + Out) / (Density) ; % inbound = trips in / (Total Peak Hour Trips)

(3) Effective trip rates calculated by land use:

For average rates =

Density * ave. trip rate = 2-way Trips ; * Inbound percentage for Trips In

For ITE equations =

Density * trip equation = 2-way Trips ; * Inbound percentage for Trips In

** Trip Rate equations used to determine trips, effective rate Shown

Table 5
Trip Generation Variables

February 2009

ITE Land Use (1)				AM PEAK HOUR			PM PEAK HOUR			DAILY	
CODE	CODE	DENSITY	Var.	USE	IN	OUT	TOTAL	IN	OUT	TOTAL	(2-way)
Weekday											
488	488.0	5 fields		Soccer Complex	4	3	7	71	32	103	357
488	488.1	5 fields		Soccer Complex (Factored)	5	4	9	97	43	140	481
488	488.2	5 fields		Soccer Complex (Max rates)	5	4	9	86	38	124	454
488	488.3	5 fields		Soccer (Generator Max)	10	9	19	44	89	133	454
412	412.000	30.1005 acres		County Park	0	0	0	1	1	2	69
412	412.100	30.1005 acres		County Park (Max)	1	0	1	1	1	2	1,608
412	412.200	30.1005 acres		County Park (Generator)	11	5	16	6	12	18	281
417	417.000	30.1005 acres		Regional Park	0	0	0	3	3	6	138
417	417.100	30.1005 acres		Regional Park (Max)	0	0	0	14	19	33	1,176
417	417.200	30.1005 acres		Regional Park (Generator)	3	2	5	4	4	8	439
Max Trips (Park)					10	9	19	97	43	140	1,608
Average Trips (Soccer Park)					6	5	11	75	50	125	437
Average Trips (County Park)					4	2	6	3	5	7	653
Saturday											
					SAT PEAK HOUR			SAT DAILY			
					IN	OUT	TOTAL	IN	OUT	TOTAL	(2-way)
		5 fields		Atheletic Fields	10	9	19	97	43	140	481
90	90.2	250 spaces		Park & Ride Lot	146	34	180	36	119	155	1,125
Total Trips (Proposed SPEX)					156	43	199	133	162	295	1,606

Saturday											
488	488.400	5 fields		Soccer Complex (Sat)							587
488	488.800	5 fields		Soccer (Sat)							0
488	488.900	5 fields		Soccer (Sat Generator Max)							0
412	412.300	30.1005 acres		County Park (Sat)							365
412	412.400	30.1005 acres		County Park (Sat Max)							745
Max Trips (Park)											745
Average Trips (Park)											566
5 fields ^^ Atheletic Fields (Saturday)											1,200
250 spaces Park and Ride (Saturday)											0
Total Trips (Proposed SPEX)											1,200

Effective Trip Rates (3)		AM Peak Hour		PM Peak Hour		Daily	
		Trip rate per	Inbound	(2-way)	Inbound	Weekday	
ITE Land Use Code			%		%	(2-way)	
	Atheletic Fields	fields	3.80	53%	28.00	69%	96.20
90	Park & Ride Lot	spaces	0.72	81%	0.62	23%	4.50
	Atheletic Fields (Saturday)	fields			33.60	48%	240.00
488	Soccer Complex	fields	1.40	57%	20.60	69%	71.40
488	Soccer Complex (Sat)	fields			28.80	48%	117.40
412	County Park	acres	0.00		0.07	50%	2.29
417	Regional Park (Generator)	acres	0.17	60%	0.27	50%	14.58

TRIP RATE SOURCE:

Trip Generation Manual (8th Edition), Institute of Transportation Engineers: 2008.

Average trip rates used, unless noted with * then equations used.

(1) ITE Land Code shown as the first 3 digits. Decimal shown for internal use by PHR+A for lookup table for trip rate variable.

^^ Saturday Average of max trips and average soccer park, derived based on K=0.14 to allow for peak use at 4.0 trips/space

Trip rate calculation = 2-way Trips (In + Out) / (Density) ; % inbound = trips in / (Total Peak Hour Trips)

(3) Effective trip rates calculated by land use:

For average rates =

Density * ave. trip rate = 2-way Trips ; * inbound percentage for Trips In

For ITE equations =

Density * trip equation = 2-way Trips ; * inbound percentage for Trips In

** Trip Rate equations used to determine trips, effective rate Shown

Background 2010 Intersection Level of Service

Scenario		2010		2010		2010	
Intersection	Lane Group	AM Peak Background		PM Peak Background		Sat Peak Background	
		LOS	Delay	LOS	Delay	LOS	Delay
1 VA RT 7 N Ramps/Irene Rd/Hamilton Station Rd <i>Unsignalized</i>	EBLTR	B	10.2	A	9.9	A	9.7
	EB	B	10.2	A	9.9	A	9.7
	WBLTR	B	12.6	B	13.7	B	11
	WB	B	12.6	B	13.7	B	11
	NBLTR	A	2	A	2.9	A	1
	NB	A	2	A	2.9	A	1
	SBLT	A	0.1	A	0.4	A	0.7
2 VA RT 7 S Ramps/Hamilton Station Rd <i>Unsignalized</i>	EBLTR	B	12.7	B	12	B	10.2
	EB	B	12.7	B	12	B	10.2
	SBLT	A	3.8	A	0.6	A	0.9
	SB	A	3.8	A	0.6	A	0.9
3 E Colonial Hwy/Hamilton Station Rd <i>Unsignalized</i>	EBLT	A	1.9	A	6.2	A	3.8
	EB	A	1.9	A	6.2	A	3.8
	SBLR	B	13	B	13.3	B	10.2
	SB	B	13	B	13.3	B	10.2
7 E Colonial Hwy/Canby Road <i>Unsignalized</i>	WBLT	A	0.4	A	0.3	A	0.8
	WB	A	0.4	A	0.3	A	0.8
	NBLR	B	14.3	B	11	A	9.9
	NB	B	14.3	B	11	A	9.9
8 VA RT 7 N Ramps/VA RT 9 <i>Unsignalized</i>	WBLTR	B	13	F	679.1	C	22.6
	WB	B	13	F	679.1	C	22.6
	NBL	B	12.9	A	8.8	A	9.2
9 VA RT 7 S Ramps/VA RT 9 <i>Unsignalized</i>	EBLTR	F	N/A	F	64.8	F	88.3
	EB	F	N/A	F	64.8	F	88.3
	SBL	F	60.7	B	10.8	B	10.2
10 E Colonial Hwy/Dry Mill Rd/VA RT 9 <i>Unsignalized</i>	EBLT	A	5.2	A	7.5	A	5.7
	SBL	F	105.8	C	16.2	B	12.3
	SBR	A	8.6	B	13	A	8.8
	SB	F	92.4	B	13.5	A	9.9

ATTACHMENT 11

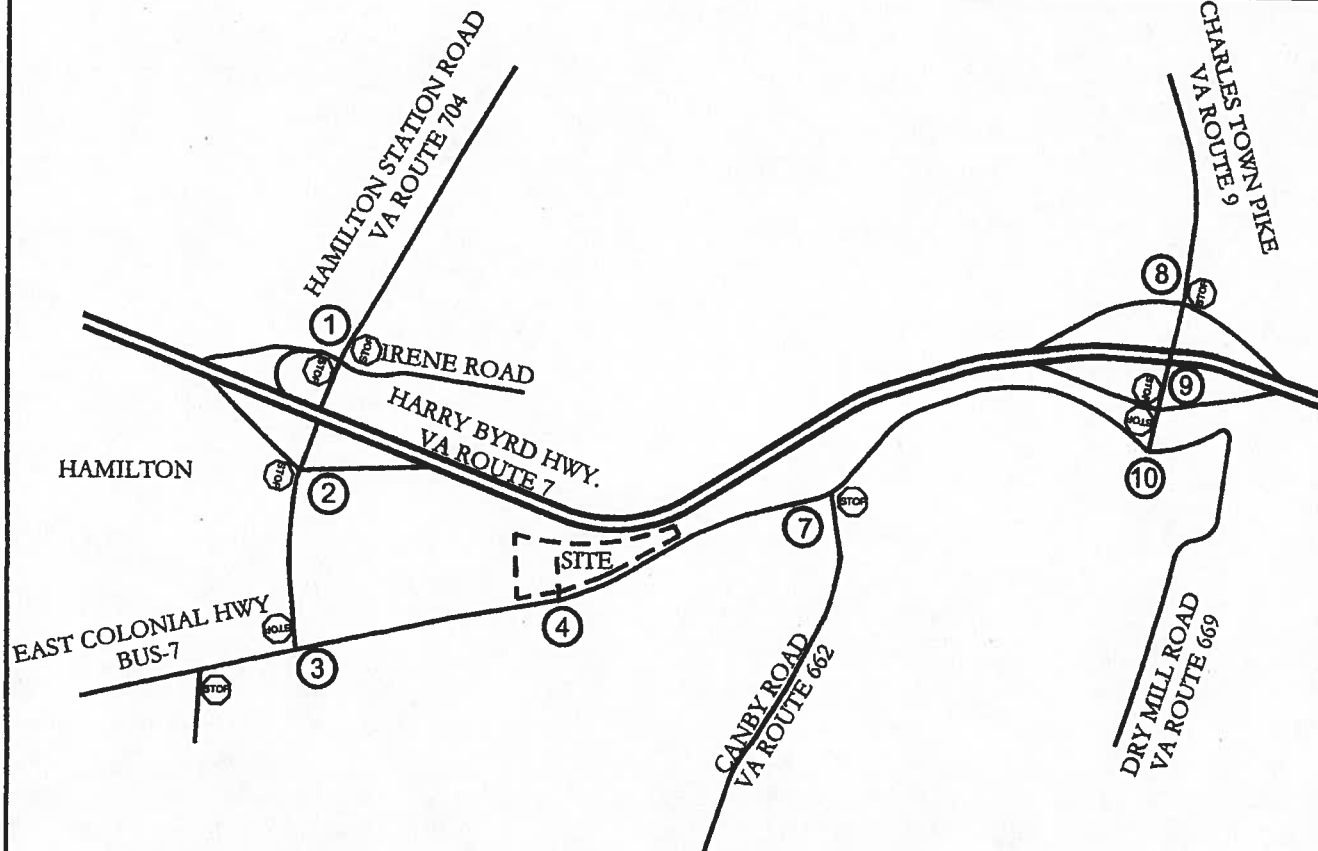
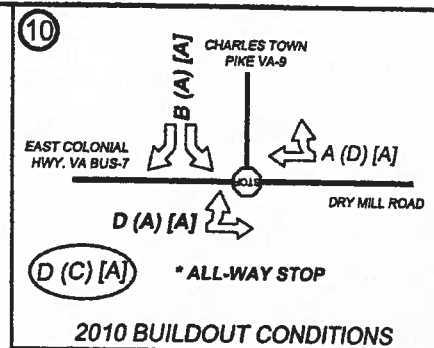
Total 2010 Intersection Level of Service

Scenario		2010		2010		2010	
Intersection	Lane Group	AM Peak Total		PM Peak Total		Sat Peak Total	
		LOS	Delay	LOS	Delay	LOS	Delay
1 VA RT 7 N Ramps/Irene Rd/Hamilton Station Rd <i>Unsignalized</i>	EBLTR	B	10.5	B	10.3	A	9.8
	EB	B	10.5	B	10.3	A	9.8
	WBLTR	B	13.3	C	16	B	11.2
	WB	B	13.3	C	16	B	11.2
	NBLTR	A	2.4	A	3.7	A	1.2
	NB	A	2.4	A	3.7	A	1.2
	SBLT	A	0.1	A	0.3	A	0.6
2 VA RT 7 S Ramps/Hamilton Station Rd <i>Unsignalized</i>	EBLTR	B	13	B	12.8	B	10.2
	EB	B	13	B	12.8	B	10.2
	SBLT	A	3.5	A	0.6	A	0.9
	SB	A	3.5	A	0.6	A	0.9
3 E Colonial Hwy/Hamilton Station Rd <i>Unsignalized</i>	EBLT	A	1.8	A	6.4	A	3.7
	EB	A	1.8	A	6.4	A	3.7
	SBLR	C	22.4	C	16.9	B	10.6
	SB	C	22.4	C	16.9	B	10.6
4 E Colonial Hwy/Site Entrance <i>Unsignalized</i>	EBL	A	7.6	A	8.2	A	7.4
	SBL	C	23.8	B	13	B	10.7
	SBR	A	8.7	B	11.5	A	8.8
	SB	B	13.7	B	11.8	A	9.5
5 Site Entrance/Bus Access <i>Unsignalized</i>	WBLR	A	9.5	A	9.5	A	0
	WB	A	9.5	A	9.5	A	0
6 Site Entrance/Kiss & Ride Access <i>Unsignalized</i>	WBLR	A	9	A	9.3	A	0
	WB	A	9	A	9.3	A	0
	SBLT	A	0	A	0	A	0
7 E Colonial Hwy/Canby Road <i>Unsignalized</i>	WBLT	A	0.3	A	0.3	A	0.7
	WB	A	0.3	A	0.3	A	0.7
	NBLR	B	14.8	B	11.5	A	10
	NB	B	14.8	B	11.5	A	10
8 VA RT 7 N Ramps/VA RT 9 <i>Unsignalized</i>	WBLTR	B	13.2	F	743.7	C	23.4
	WB	B	13.2	F	743.7	C	23.4
	NBL	B	13.1	A	9.1	A	9.2
9 VA RT 7 S Ramps/VA RT 9 <i>Unsignalized</i>	EBLTR	F	N/A	F	72.3	F	90.6
	EB	F	N/A	F	72.3	F	90.6
	SBL	F	63.6	B	11	B	10.3
10 E Colonial Hwy/Dry Mill Rd/VA RT 9 <i>Unsignalized</i>	EBLT	A	5.3	A	8.2	A	5.8
	SBL	F	117.3	C	17.5	B	12.5
	SBR	A	8.8	B	13.8	A	8.9
	SB	F	89	B	14.2	A	9.9

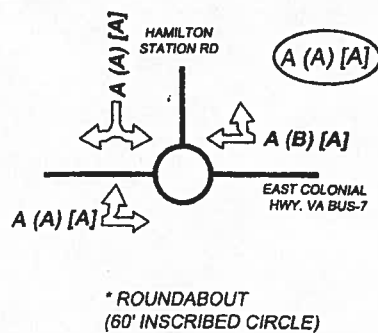


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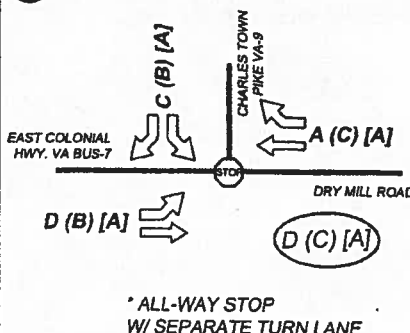
* For site intersection 4 E Colonial Highway/Site Driveway
Please see Figure 14 for lane configuration and Table 8A/8B for Level of Service.



③ 2020 BUILDOUT CONDITIONS



⑩ 2020 BUILDOUT CONDITIONS



LEGEND

- ① INTERSECTION NUMBERS
- ↔ LANE CONFIGURATION
- STOP STOP SIGN
- xxx (xxx) (xxx) AM (PM) [SAT] PEAK HOUR APPROACH LEVEL OF SERVICE
- (X (X) [X]) AM (PM) [SAT] OVERALL INTERSECTION LEVEL OF SERVICE



Mitigation Measures
Scott Jenkins Memorial Park

FIGURE 18

February 2009
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Total (2010) Left Turn Warrant @ E Colonial Hwy/Site Driveway

Design Year: 2010 - Design Speed 50MPH

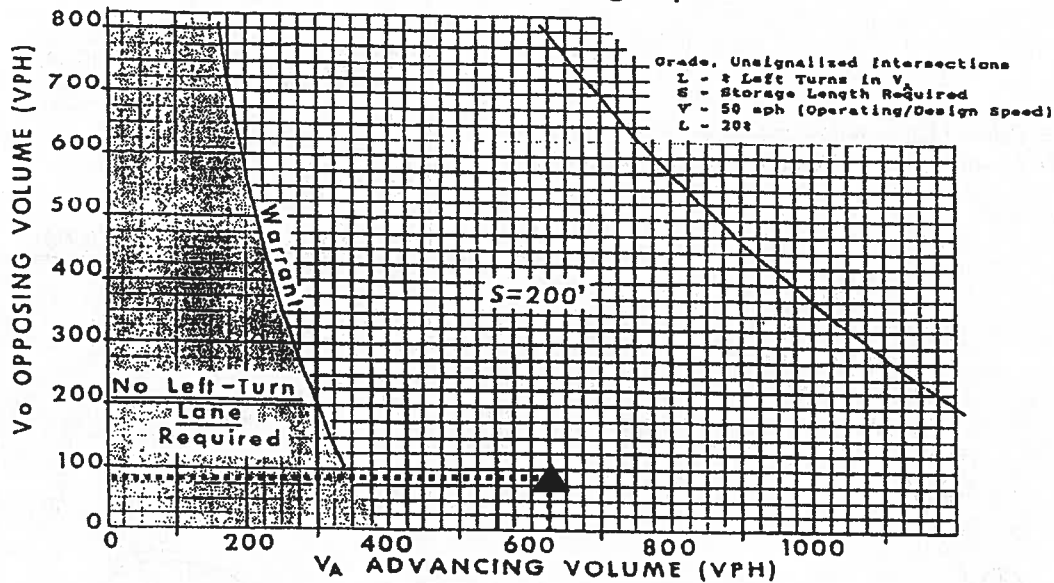


FIGURE C-1-1.11

	Peak Hour:	AM ▲	PM ◆
E Colonial Hwy	Advancing Vol (Va):	624 VPH	131 VPH
Advancing - EB	Opposing Vol (Vo):	86 VPH	360 VPH
Opposing - WB	Left Turns:	113 VPH	34 VPH
	% Left Turns (L):	18.1%	26.0%

Figure Source: VDOT Road Design Manual, Calculations by PHR+A

Left Turn Lane Warrant - Satisfied

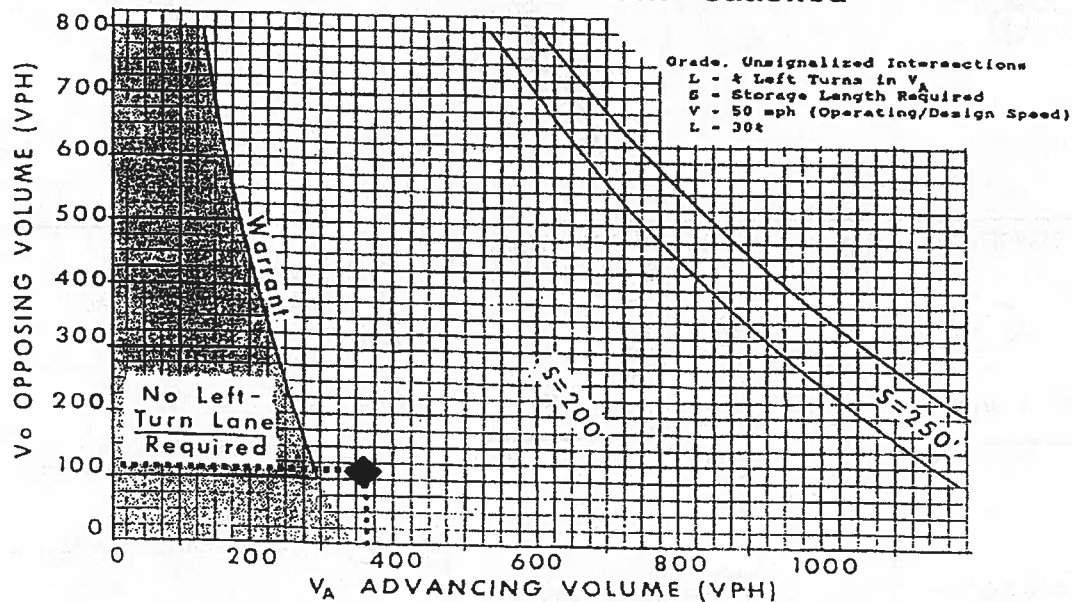


FIGURE C-1-1.12